

New! ... from ProWave



Flyer Flight Notes is the tutorial series for the Flyer professional. In Volume I, Flight Notes host, Don Ballance, will show you how to unleash advanced features of NewTek's Video Toaster Flyer $^{\mathbb{M}}$. Don will give you powerful techniques to integrate ToasterPaint $^{\mathbb{M}}$ and Toaster $CG^{\mathbb{M}}$ into your flyer production. Learn how to use the many included AREXX routines to really make your Flyer soarl Insert edits, edit to crouton, using locks properly, audio editing techniques, and short stroking drives are all covered in this tape.

Don also explains the use of Hard Drive tools and many keyboard shortcuts that will make your Flyer editing sessions fly. Included with the video is Don's Cheat Sheet, a handy quick reference card with his favorite shortcuts.

HD Tools • Audio Edits • AREXX Utilities • Video Inserts • Key Pages • ToasterPaint Processing • Music Videos • Third Party Products • Handling Effects and more...



Don Ballance was a Toaster dealer for 4 years before beir picked up as NewTek's east coast sales representative. Don known best for killer Toaster Flyer demonstrations and his low for music. He currently travels around the country showing a the machine he loves best: the Video Toaster Flyer.

Special Bonus Offer: If you buy this tape before November, 1996, you'll also receive Cwipe, a handy utility that converts old toaster effects to 4.1 effects. Convert nearly any effect instantly to an effect for use in your Flyer project.

Order Now! \$39.95**

LightWave 3D™



...Our LightWave 3D Series

The Tutorial Series for the Professional Animator

Advanced Series featuring Mark Thompson



Volume I: Layout Tips & Tricks: Award winning animator, Mark Thomptakes you step by step through his powerful techniques for compositing to video, the new inverse kinematics, neon lights, and much more. The included ROM contains all the material covered in the tutorial and more! The recomplete, in-depth training package available.

Volume II: Mastering Materials and Textures: LightWave ex Mark Thompson, unlocks the hidden power of the many LightWave 3D procedural textures. Learn how to create stunning special effects through creasurfacing, the tradeoffs of image maps vs. procedurals, when and how to a antialiasing. Design surfaces that look completely real. Our CD-ROM conteverything necessary for the tutorial and loads of bonus LightWave material.

\$59.95**

Beginner/Intermediate Series featuring Dan Ablan

Learning LightWave Thru Logos: 3D Artist, Dan Ablan, shows you the basics of LightWave-it's easy! Make logos the networks. What should you charge? How do you find that first client? Starting with just a business card. learn how to proper texture and match colors. Open your mind to new ways of animating titles, going beyond the typical flying logo. Learn how minimize your time and maximize your profits by building your own prefab library. The included CD-ROM will get you started!

49.95

Also from ProWave ...Flyer utilities

ProWave Systems is proud to announce a suite of tools to make audio editing with the Flyer a dream. Our tools allow you to import and export Flyer clips in a wide variety of audio formats. Now, you can perform infinite audio mixdowns by pushing a mouse button.

Imagine setting up a project using audio clips and appropriate fades, levels, timing and length. Then, with a click of the mouse, ProMix™ automatically will mix all of your audio and settings to a new single audio clip! You can also join clips together to make a single audio track.

One of the most powerful features is the ability to add audio to any Video clip. You can simply render out your animation, sequence sound effects or music tracks, and ProMix will add all of the audio directly to the animation. ProMix also comes with Audio Black Box $^{\text{TM}}$, our audio format import/export utility. Audio Black Box supports WAV, AIFF, IFF, AU, RAW, and AD516 formats.



- Audio3racc3ox
- PROMIX
- WAVEEDITOR





Select Promix





One Stereo Flyer Clip

Sequence

- Add Audio to Video Clips & Animations
- Join Clips
- Infinite Audio Mixdowns
- Import/Export Various Audio Formats
- Supports fade up and audio level

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Coming Soon:



Watch VTU for availability

WAVEEDITOR

WaveEditor™ is a powerful utility that lets you edit Flyer audio clips using a waveform interface. This allows you to see your audio clips in a waveform presentation for frame accurate edits. You can copy paste, insert, or append audio clips nondestructively. When finished WaveEditor will set up a project fo you, or you can write a new clip with all of your parameters.

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mage



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UIDEO TOASTER USER

AUGUST 1996 UNLUMF 6 HUMBFR A

FEATURES

24 THE MAGIC CAMERA CO.

by Dick DeJong and Molly Dinkins Who does James Bond call when he needs LightWave 3D clean up work fast? Alan Marques and the Magic Camera Company, of course. *Video Toaster User* uncovers the secrets of this Hollywood-style operation from overseas.



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THE BLEEDING EDGE

by Joe Clasen and Susan Ishida LightWave 3D is changing the game development world, with some of today's most popular game companies, such as BlueSky Software, Triac, and Westwood Studios, utilizing this powerful software.



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Cover Design by Brian D. Cowen; FryeAllen, Inc. Images Courtesy of BlueSky Software

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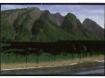
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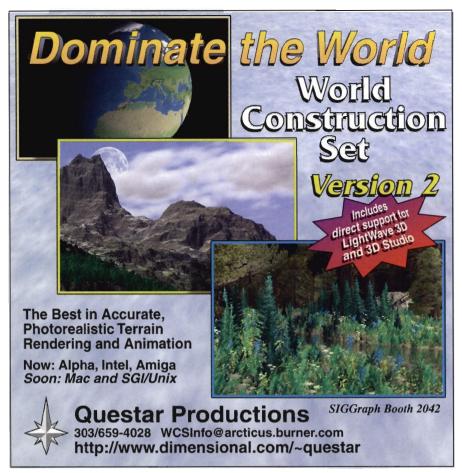
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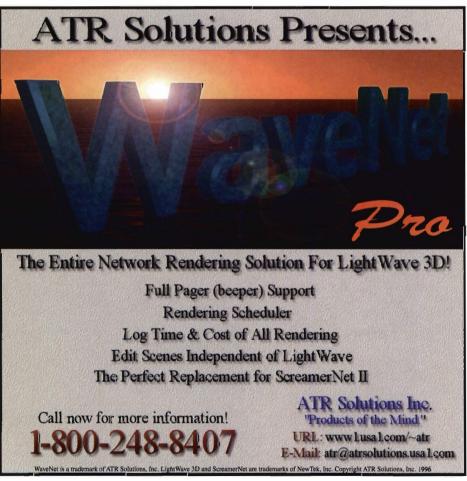
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VIDEO TOASTER USER EDITORIAL

LETTERS TO THE EDITOR All suggestions and comments about Video Toaster User are read by our editors. We reserve the right to edit your submissions; letters must include your name, address and phone number. Direct all correspondence (by mail or electronically) to Letters to the Editor.

QUESTIONS AND TIPS Direct your Tooster-specific questions or tips to VTU

NEW PRODUCTS & UPDATES Direct your press releases and new product literoture to New Products Editor.

WRITER'S GUIDELINES Write to Video Toaster User, Attn: Writer's Guidelines.

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LEARN FROM THE EXPERTS!

Take a Private Lesson With These Hot New Videos



The LightWave 3D Essentials Series

Learn the fundamentals of LightWave 3D, cut months off your learning curve and start animating like a pro. Top CGI artist John Gross guides you through all aspects of modeling and animation. From 3D basics to advanced tips and tricks for creating stunning 3D animation. This series is a must for every LightWave 3D artist.

- · LightWave Quickstart
- · Animation Essentials
- Mastering Modeler
- Surfacing Techniques
- · Advanced Features
- Motion Magic



John Gross

Top animator for Star Trek Voyager, Sliders, seaQuest DSV and founding editor of LightWave Pro



Ron Thornton

3D innovator and Emmy award winning CGI design and effects artist for Babylon 5, and creator of the Hypernauts television series

The Creative Magic of Ron Thornton

Explore cinematic CGI as the wizard of 3D animation reveals the secrets of digital special effects. Learn award winning techniques with LightWave 3D and Adobe Photoshop for modeling, surfacing, image compositing, creating photorealistic scenes and adding special effects. This expose offers incredible insight into computer generated imagery and special effects.

- Spacecraft Model Design
- Digital Cinematography
- Spacecraft Surfacing Techniques Cinematic Visual Effects





The Internet Professional Series

The internet is the most powerful communications tool of this century, Now you can uncover all of its riches. From surfing the World Wide Web and global communications to finding free software & information, You'll learn everything you need to be an Internet expert. Discover how to easily build your own Web site in a few

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- Communicating on the Internet
- World Wide Web



Brady Caverly

World Wide Web publisher and Internet expert, Caverly takes the mystery out of the Internet and Web page creation



Flyer Essentials & Advanced Techniques Complete instruction to this non-linear editing powerhouse. Special effects, tips & tricks, rotoscoping and more.



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TOASTER TALK

All Good Things

Thank You







sat in the coffee house sipping on my newly acquired taste watching the sun slip over the horizon. Thinking about the future, I was absorbing the atmosphere of San Francisco's North Beach and was mistakenly transported back to Italy where I saw my first Amiga. It was a shiny new ready-to-go A500 sitting in a Naples shop window. It was the mid-80's and little did I realize as a young US Navy

photojournalist/videographer, what role video production (and these machines) would play in my life.

Years later as I got into film and video, the problems of creating quality graphics and sound were constant. Then I remembered the Amiga. It became the computer of choice for many budding video makers, not because it was "cool" or "in" but because it got the job done. Later most users I talked to always liked the fact that the Video Toaster is "a TV studio in a box" with everything needed (almost) to produce creative "broadcast quality" (NTSC RS170a) video. The bottom line, as I've tried to communicate over the past months, is to look for whatever tool you can afford to produce professional television. Additionally "Carpe Diem" should be your maxim. At the same time remember, it's not the tools, it's what you do with them. And notice I didn't say video—I said television and there is a difference. Just about anybody can make a video these days; few can create compelling television. There's a real art to it and I've found most clients are willing to pay for the difference. Learn to price your work properly and always aspire to high quality no matter what the job.

It's Been Great!

Over the past year it has been my pleasure to serve as your Editor in Chief at *Video Toaster User* magazine, and for a shorter time as Executive Editor of *LIGHTWAVEPRO*. I have found it to be both rewarding and enlightening. As always Amiga/Toasterland has been a turbulent and exciting place. Let's look at some of what has occurred and what we have accomplished.

- Video Toaster User and LIGHTWAVEPRO established a great World Wide Web home page and thousands of users have visited since opening last fall.
- NewTek released multi-platform LightWave 3D 4.0 and 5.0 with many new features including Open GL, MetaNurbs, Plug-ins and much more.
- VTU added a column called "Tech Support Tip of the Month" allowing NewTek's Technical Support Department to directly address its users concerns on a monthly basis.
- NewTek announced new relationships with DeskStation, Apple Computers and Sun Microsystems.
- Video Toaster User added a column called "Flyer Suite" giving readers information on the finalized 4.1 Toaster

Flyer non-linear editor software and the latest in digital video post production techniques. The magazine also added the "Dr. Toaster" column to provide another avenue for readers technical questions.

- NewTek announced the porting of LightWave 5.0 to the Power Mac platform in the very near future.
- AMG Media established an on-line WWW magazine called REC.> (Record) covering acquisition products and techniques for the video producer.
- NewTek established new on-line support sites and redesigned its WWW site.
- *Video Toaster User* and the FryeAllen design team won three awards for graphic and design excellence.
- ESCOM is now in the process of selling Amiga Technologies to US-based VIScorp.
- The first *LIGHTWAVEPRO* Compilation book/CD-ROM is shipping and has become quite popular.
- AMG Media, VTU and LIGHTWAVEPRO were sold to international publisher Miller Freeman Inc.

And that's just a few of the events this past year! My path is now taking a different turn towards a new horizon, and this will be our last official "Toaster Talk." I would also add that I've tried hard to reach out to you and give you fresh information you can use from new writers that perhaps haven't written before. I've had a great team to work with and wonderful input from you our readers. Things have not always been easy, but its mostly been fun and always interesting with never a dull moment! I've truly enjoyed meeting you, hearing your stories and trying to help where I could.

In parting, let me thank you for your support and also give you a few challenges. As I said the day I took the helm here—it's your magazine (and your community). Please work towards making the magazine an independent voice to ensure that *VTU* continues to give you the specialized information you need to make your hobby more rewarding or your business grow. Better than that—pick up a pen or keyboard and share some of your feelings, ideas, images or knowledge with your fellow video makers. Secondly, I challenge you to use your creativity and energy to give back to your communities via free public service announcements, videos for a charity or cause of your choice. Most of these organizations don't have *any* budget for video and do wonderful work.

It's been great working for you. As sailors say—I wish you fair winds and following seas! Do what you can, do unto others and I bid you a fond...adieu.

Tom Patrick McAuliffe is an award winning video producer and writer who also owns Reel Communications in Northern California.



THE FASTEST JUST GOT FASTER!

ALPHA ™Once again, Carrera raises the price performance

bar! Carrera is the leading supplier of Alpha based solutions for computer animation and rendering. Starting at only \$5,995 you too can own the same system that Amblin Imaging used to win the prestigious EMMY AWARD for STAR

TREK...but now with twice the power! (Finally, more power for Scotty!) The Cobra EV5 harnesses the power of the 21164 Alpha micro-

processor, with its four instruction,

super scalar design, and two megs of 10ns cache. In addition, you get 64

> Megs of 256-bit RAM with 1Gbyte/sec. of rendering bandwith, 1Gig of Fast SCSI-2 disk, 6 speed SCSI-2 CD-ROM, Windows NT, and an OpenGL accelerator with 4Megs of RAM. Starting with a SPECfp92 of 562, the Cobra EV5 shreds through complex rendering applications. The Cobra and Cobra EV5 continue to be the favorite systems for Lightwave users. Ask us about our 5.0 Bundle! More power, more value, and more

flexibility, all from Carrera.





http://www.carrera.com Carrera Computers, Inc.

NEW PRODUCTS

At Your **Command**

ARexx. Scripts and Effects

Product: Flyer Command Tools v1.7, Price: VideoGems \$295,

Super-Pack \$99.95

Description: Software for Toaster, Flyer

and LightWave

MegageM Digital Media

1903 Adria Ave.

Santa Maria, CA 93454

Phone: (805) 349-1104

WWW: megagem.com

Flyer Command Tools v1.7 and VideoGems Super-Pack are part of an updated MegageM product line for Video Toaster and Flyer 4.1 systems. Flyer Command Tools contains dozens of new ARexx and scripting commands for the Flyer playback control. Standard VCR-type functions, such as play, stop,

pause, fast-forward and reverse are provided. Batch-handling controls and automatic commercial insertion capability also is provided. Flyer Command also allows for operation of the Flyer from within other programs through simple ARexx scripts, AmigaDOS scripts and direct Shell commands.

The VideoGems Super-Pack is a CD-ROM filled with material for Video Toaster/Flyer and LightWave 3D users. Included are 56 new blinds, wipes and other Toaster Effects; 36 new Toaster Colorfonts with texture-mapped surfaces and beveled edges; dozens of LightWave texture maps; and hundreds of ready-touse LightWave objects.

Also included are landscape-mapped objects based on U.S. Geological Survey maps of such places as Hawaii and the Grand Canyon, and even a patch of the the planet Mars. MegageM also offers Flyer hardware, including video edit controllers.

FOR INFORMATION CIRCLE 1

Moving Textures

Product: Moving Textures Description: CD-ROM Price: \$299.00 **Precision Computer** Graphics 634 N. Glenoaks Blvd. Burbank, CA 91502 Phone: (800) 479-5255 Fax: (818) 842-1085

Precision Computer Graphics is currently shipping the next volume of the Moving Textures series, Moving Textures 200. This CD-ROM contains 19 film and video clips that have been digitized, processed, and stored as individual JPEG images. Image include natural phenomenon such as clouds, fire, smoke and water. Moving Textures 200 allows the animator to avoid costly clearance issues as this footage requires no royalties and no licensing fees.

FOR INFORMATION CIRCLE 2

FunTV Merges PC and TV

Product: FunTV Description: TV Capture Board Price: \$249 AVerMedia Inc. 47923A Warm Springs Blvd. Fremont, CA 94539 Phone: 1-(510) 770-9899 Fax: 1-(510) 770-9901 http://www.aver.con/aver

FunTV is a double purpose add-on board that



allows desktop PC users to watch real-time television directly from their PCs and even capture TV images to their hard drives. As a TV screen, FunTV can work in conjunction with almost any home or office security/surveillance system.

FunTV allows users to resize the "TV window" on the PC screen to any size or to full-screen, supporting up to 1024 x 768 VGA resolution without sacrificing audio/visual quality. Users can plug the unit into a standard PC card slot and attach the internal/external antenna and a pair of speakers.

FunTV doubles as a TV capture board, allowing users to select and retain images for future use such as in presentation and other multimedia application.

FunTV receives NTSC or PAL channels, including air and cable bands (VHF/UHF) and allows users to play back video from external video machines like VCRs, LaserDisc players and camcorders.

FOR INFORMATION CIRCLE 3

Compiled by Rosemary Picado

Rack Mounts for Big Screens

Product: SYSTEM/85

Price: Varies

Description: Extra-wide rack mounts for NLE video edit-

ing suites Winsted Corp.

1090 Hampshire Ave.

Minneapolis, MN 55438-2385 Phone: (612) 944-1546

Winsted Corp. has solved the problem of how to rackmount big-screen monitors in video editing studios. The 21-inch monitors now popular in non-linear video editing suites won't fit standard 19-inch EIA racks. Enter



Winsted with its 22-inchwide SYSTEM/85 module rack system. The modules are used in a variety of Winsted consoles, including five-, four- and three-bay systems, or it can be ordered as part of a design-your-own system. Rack bays are available in the standard vertical style of one that slopes for better viewing. More information is available in the free Winsted catalog. Call (800) 559-6691.

FOR INFORMATION CIRCLE 4

Find Special Interest Videos on the Web

Product: Special Interest Video Marketplace

Price: Varies

Description: World Wide Web services for video pro-

ducers

Interest Video Special Marketplace

22323-6 Sherman Way West Hills, CA 91367

Phone: (818) 313-9601 Fax: (818) 999-5637

http://www.well.com/~siv

The Special Interest Video Marketplace offers Web page services to special interest video makers, video production companies, special event videographers, mailing list houses, video editors, tape sales and duplicators. A web page and address is available for as little as \$90 for two years. Registrants need only provide important contact information for their video business plus a 200-word description. The marketplace staff does the rest, including design and maintenance of the Web page.

Subscribers are encouraged to promote their pages by pointing customers to its location in other advertising and promotions, business cards and letterhead, and listings with web search engines, such as Yahoo.

FOR INFORMATION CIRCLE 5

LIGHT-ROM 3: **LightWave Everything**

Product: LIGHT-ROM 3

Price: \$49.95

Description: 3 CD-ROM set of 3D objects, textures, digital elevation maps for LightWave 3D Graphic Detail, Inc. 4556 S. Third St. Louisville, KY 40214 Phone: (800) 265-4041

For orders Fax: (502) 363-2986 The first CD-ROM contains over 6.500 LightWave objects and scene files. All objects contain thumbnail renders for easy previewing and all objects can be used with on the Amiga or PC using LightWave 4.0.

The second disc has hundreds of objects in other 3D formats, such as 3D Studio, Imagine, Sculpt 3D and Real 3D, plus textures, Video Toaster wipes and fonts, 3D landscapes in LightWave, Imagine and 3D Studio formats.

The third disc has 1,100 DEMS, or digital elevation maps, for use with VistaPro, World Construction Set and other terrain modeling programs. The DEMs include much of North America.

FOR INFORMATION CIRCLE 6

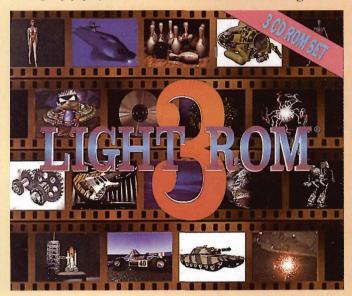
Find It in Webster's

Product: Webster's New World Dictionary of Media and Communications.

Price: \$27.95

Description: Reference Book Macmillan Publishing 1633 Broadway New York, NY 10019 Phone: (800) 428-5331

Broadcasting, film, recording, theatrical and related terms are defined in the expanded new edition of Webster's New World Dictionary of Media and Communications, published by Macmillan Publishing.



The 678-page paperback of definitions and other useful information was authored by Richard Weiner, a renowned public relations counselor.

Macmillan Publishing says the book is the most comprehensive source ever published of technical and slang terms in 28 fields, advertising, including broadcasting, computer, exhibitions, graphic arts, recording and telecommunications. It contains 35,000 base entries and related terms, including up to the minute Internet and other jargon not found in any other dictionary.

FOR INFORMATION CIRCLE 7



Music 101

Product: Computer Music: An Interactive Documentary Price: \$49.95 Description: Computer Music CD-ROM Digital Studios 209 Santa Clara Ave. Aptos, CA 95003 Phone: (800) 499-3322 WWW: http://www.cyberlearn.com

Computer Music: An Interactive Documentary is hybrid CD-ROM for Macintosh or PC environments demonstrating how computers are used to create, edit and perform music. It includes over two hours of animation and video featuring performers, researchers, sound designers and engineers who cover topics such as MIDI, synthesis, sequencing, composition, digital recording and editing. Preview this program on the World Wide Web http://www.cyberlearri.com.

FOR INFORMATION CIRCLE 8

Create Multimedia Presentations

Product: ImageVision Price: \$185 Description: Mutimedia authoring program for Amiga. Anti Gravity Products Graphic COmputer Peripherals 456 Lincoln Boulevard Santa Monica, CA 90402

Phone: (310) 393-6650

Fax: (310) 576-6383

Create multimedia presentations with animations, backgrounds, pictures and MPEG compression for sound and motion picture. ImageVision is also soon to support Video Toaster Flyer Clip play back for better video quality with VTASC.

The ImageVision Editor Station requires an Amiga A1200 or A4000 with minimum 2 MB CHIP RAM and 1 MB FAST RAM, 5 MB free hard disk space, Amiga OS 3.0 or later.

The Player Station requires any AGA AMiga, minimum 2 MB CHIP RAM and Amiga OS 3.0 or later.

You will also need a CD-ROM player and an additional MPEG card for playing FMV movies.

FOR INFORMATION CIRCLE 9



PRODUCT ANNOUNCEMENTS

Announce your new products in Video Toaster User.

Simply send a press release describing your product with a photo, or a Mac or PC disk with a JPEG or TIFF image to:

Video Toaster User attn: New Products Editor 1308 Orleans Dr. Sunnyvale, CA 94089

For more information, call (800) 322-2843.

THE FLYER SUITE

The Flyer's Dual Identity

4.1 Version 3 Survival Kit-Tips Too!



by Frank Kelly



t's quite easy to get caught up in the excitement over NewTek's latest Toaster upgrade (version 4.1). Obviously there are many great features that make the upgrade very desirable. However there are some Toaster and Flyer users who may benefit from having both the new and old Toaster software on the same machine. Examples of people who might prefer having the ability to "go back"

to the previous version of the Toaster software are not

that rare. In fact, you might fall into one of those cate-

"...you might consider

previous version

onto another hard

Those using the Toaster in "live switch" situations a reinstall of the that require GPI triggers or other forms of hardware communication not fully supported under 4.1 will likely want to have access to the previous version. Another category of user might be those accustomed to using LightWave to generate simple animations **drive or partition..."** such as flying logos. They will find that the may not offer them enough

benefits to outweigh much slower render times over the previous version. Anyone who has invested a great deal of time and effort building customized Toaster projects for different clients should be aware that those projects will not load into 4.1 (many of the fonts and some of the effects from 3.0 are removed during the 4.1 installation).

Certain software packages, as well as some hardware designs that were supported under the previous version of Toaster software are now either totally incompatible or require special procedures to work properly. The explanation for this isn't as simple as most might think, nor did NewTek set about creating software that would necessarily be incompatible with the rest of the world. The old saying goes "You can't make an omelet without breaking a few eggs," and plenty of eggs were broken to give birth to 4.1.

To begin with, NewTek has completely rewritten their software for an unprecedented level of ARexx support. In fact, if you don't have the ARexx server (Rexxmast) running, your new Toaster software will not run at all. Keeping up with the sweeping changes in Toaster's program code requires a tremendous level of dedication by third-party developers. The turmoil surrounding the Amiga platform forced many companies whose primary income was derived from the Amiga market to either severely cut back or completely stop supporting the platform. Some companies (such as Sunrize Industries) halted business activity altogether and their products (like the Sunrize Soundswitch and the AD516) will not work with the new Toaster/Flyer software. So for those who have invested in and are accustomed to using some really terrific products that are no longer compatible with their new Toaster systems, installing the new 4.1 software while maintaining access to the previous version begins to make a lot of sense. However, the space requirements for such a task are fairly demanding. Even with removal of non-essentials, you can expect to use about 400 MBs of space for both software versions.

Thankfully prices for large capacity hard drives are now quite affordable (1 GB hard drives are now below \$200) making it easier to justify a dual software installation.

Look Before You Leap

A bit of preparation will be required to use both Toaster software versions on the same machine. If you have already installed the 4.1 software (without protecting the previous versions resources first) then the issue becomes complicated. Many of the files you need have been removed to make room for the new software. If that is the case, you might consider a reinstall of the previous version onto another hard drive or partition, then yet another reinstallation of the 4.1 software with some precautionary measures taken to protect important files.

Above all else, I advise a full backup of any and all hard drives that are involved in this procedure prior to making any modifications to your configuration. Some of these procedures may be a bit daunting for those not familiar with the procedure for editing text files and navigating through the directory structure of their Amigas. For those persons, it might be advisable to seek out a more experienced user or a local Toaster/Amiga dealer for assistance. If you are going to handle this procedure on your own, I highly recommend a utility such as Directory Opus to locate the appropriate files and use its ability to execute a simple text editor for modification of assign statements and pref files.

Get Ready, Get Set—Reinstall

Assuming that you have not yet installed the Flyer or 4.1 software, the following steps should be taken to prepare for a dual version software installation:

1) Rename the current Toaster directory. I find the name

OLDToaster makes modifying existing references much easier.

- 2) Change any assign statements (including those for other software installed in your Toaster directory) in your UserStartup file located in the S directory on your system partition to reflect that name change. I strongly advise making a backup copy of the UserStartup file prior to making any changes so that you can refer to it if you run into problems or want to reverse the procedure.
- **3)** Make a backup copy of the Post.Library file located in the libs directory and either change it's name or move it to another location for safe-keeping. You will need this file if you wish to use the majority of the Postscript fonts that you currently use with your version 3 software.

If these steps are taken prior to the 4.1 upgrade or Flyer installation you should then be able to install the new upgrade while maintaining all the files required to run the version 3 software. Keep in mind that there will be a new Toaster assign statement for the NewTek directory added to the UserSartup sequence after the 4.1 install that must not be changed. If you are attempting to do a reinstall of the version 3 software as opposed to an existing version upgrade as described above, make sure to avoid changing this statement, or you may not be able to run the new software once the above modifications have been made.

With both versions installed, you should be able to execute them from their respective startup icons, but remember that they are mutually exclusive. Both versions require control of the Toasterrelated hardware, so they cannot run simultaneously. You will need to exit one version prior to running the other, and, in some instances, you may need to reboot your system for complete compatibility with some third-party software. While it's not an absolute fix for all compatibility issues, it will allow most third-party products to be used with your existing setup. Some third-party products have specific work arounds. Help with those products can usually be obtained from other users on Compuserve and America Online, or through direct contact with those companies responsible for the products.

Alpha Paint and Montage

If you are like many of us who have grown accustomed to using InnoVision Technology's Montage or Alpha Paint, you will find some difficulty running these programs with version 4.1. In fact, Montage is completely incompatible with 4.1 and Alpha Paint won't properly load most Postscript fonts after your initial 4.1 installation. The primary reason for the Postscript font problem is because the 4.1 installation replaces the post.library file (located in the libs directory on your system drive) with a version that is incompatible because of a

"While neither party disagrees that you as the owner of the 3.0 software have the right to use the FontBank collection ...there is no clear understanding about the use with any other version."

disputed licensing agreement between NewTek and the company that owns the fonts in the "FontBank" collection.

While neither party disagrees that you as the owner of the 3.0 software have the right to use the FontBank collection with that version of the Toaster software, there is no clear understanding about the use (or payment for that use) with any other version. Since it's NewTek's assumption that an upgrade to 4.1 will replace 3.0, then it was decided that the 4.1 installation would seek out and remove the FontBank collection as well as make their use incompatible with the 4.1 software. One way to prevent those fonts from being removed is to move or rename the directory where they are located until after the upgrade installation is completed. For those planning to continue the use of their 3.0 software there is a file, Alpha Paint lhs, available from NewTek's file area on Compuserve and the NewTek BBS, that allows the use of the FontBank fonts with the 3.0 version of the Toaster software as well as AlphaPaint.

The file contains the elements you need to restore and reassign the old

post.library when you execute the 3.0 software or AlphaPaint. Conversely, the new post.library file will be set as the default when you exit those versions of the software or run the 4.1 Toaster application. For those AlphaPaint owners who may not have immediate access to a modem or CIS, InnoVision provides the appropriate post.lib file on it's original installation disk, and it's identical to the one that comes as part of the NewTek file, but the script that executes the reassignment of the libs directory is something you will have to recreate. One solution to the problem is to copy all the libs (except the newest NewTek version) to a different drawer with a name like "libs2" copy the old post.library file into that drawer, and then use an assign statement prior to the launching of your software that redirects any calls related to the libs directory to that specific drawer.

While it's possible to simply copy the older version of the post.library file over the new one in the libs directory, some impairment of Softmaker fonts should be expected. There is yet another solution under discussion at publication time suggested by the owners of the FontBank library that would involve a small licensing fee (approximately \$25) and include a patch or some other utility for use of FontBank fonts with Toaster/Flyer systems beyond version 3.0. Information regarding such arrangements would be posted with on-line services where NewTek has a presence.

If your dual installation involves moving the FontBank fonts to a new location or changing the name of their parent directory, be sure to change all related assign statements in various setup files that Montage and/or AlphaPaint use to locate those font resources. There also are several assign statements in the UserStartup file related to AlphaPaint and Montage that will need to be changed to reflect their location. Even though you have not physically moved either program, the parent directory (formerly Toaster, now OLDToaster) needs to be referenced in the UserStartup file accordingly.

Frank Kelly owns Spot Ad Productions in San Jose, Calif. He can be reached on-line at 76527.723@compuserve.com.

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VTU AUGUST 1996

DR. TOASTER

Where Does It Hurt?

Cures for CG, Framestores and Upgrades



by Dan Ablan

ello boys and girls. It's time once again for another installment of Dr. Toaster, the column that gives you the information you ask for. With the formalities out of the way, lets get to the questions.

Dr. Toaster,
I am using a Toaster 4000 for on-line graphics (using the Toaster for CG and Framestore through an external switcher) and 3D animation, and a Mac-based non-linear system for editing. I also learned that I can use the Mac to play back animations rendered at higher resolutions than the Toaster switcher can handle—provided I have the time to transfer my IFF-format single frames to the Mac via

floppy disks! I've been using Pegger to compress the Framestores before copying "Yes, LightWave them to the floppy, but I know networking would be an easier faster and allaround more elegant soluis a bit slower in tion (and it would allow me to avoid that small loss from JPEG compression!). Is there a solution for us? Michael Iones

Version 4.0 than 3.5, Here's Life Television Shreveport, Louisiana

but the trade off A: Sure.

The easiest way to

get your desired result without messing with network cards, operating systems in features is and the like, is through removable media. A Bernoulli or SyQuest will work. **Worth it."** The most economical solution would probably be the ZIP or JAZ drive from IOmega. JAZ cost about \$500. The cartridges are

about \$90 and hold 1 GIG of data. The ZIP is about \$200 and its \$15 cartridges hold 100 MBs. The SCSI model (like I have) can be hooked to your Amiga, PC or Mac. It also ships with PC and Mac software. I use mine for file transfers between systems, and it works well. By the way, a SCSI card for the PC is about \$100. The Mac should have one built in, and your Amiga may need one. Generally the A2000/2500 uses SCSI and often has external connections. The A4000 is IDE and a SCSI card, such as the Z3, needs to be

Hi Dan! My name is Edwin and I enjoy reading your column in VTU. I have an Amiga 4000 with Warp



To key over live video, render out your CG pages to Framestores. They load in one second as opposed to five. Fly it in with a Toaster wipe for added flair.

Engine, 36 MBs RAM and a Toaster 4000. I recently I bought the Toaster 4.1 upgrade. Everything would be great except for two things: One, LightWave 4.0 is slower than 3.5 (I can live with that), and two, I can't play my animations from the switcher anymore. Why? Can you help me with this problem? I hate to think that my low-resolution full screen anims are useless now, since I made quite a few and none of the other anim players work. Thanks in advance.

Edwin Tabora Longeuil, Canada

Edwin,
First off, thanks for the nice comment. Secondly, you've made a good choice with the Warp Engine and Toaster 4000. That's a strong stable system. However, it seems that your upgrade has changed the working operation of the system. Believe it or not, this is common on all platforms. You must remember that when a software developer creates a program, it is designated for a specific operating system. Updating that operating system is hit or miss when it comes to using existing programs. Most of the time there's no problem, yet it does happen. Yes, LightWave is a bit slower in version 4.0 than 3.5. but the trade off in features is worth it. The reason your animations won't play back is because the coding is different in Switcher Unfortunately, you will have to rerender your animations for 4.1 playback. Due to different file structures in both LightWave and the Toaster software, it's not possible for the software to backpedal and play the old animation files. So, sorry for the bad news. But look at it this way, you've got a cool new Toaster and LightWave upgrade for even greater graphic and animation capabilities.

Dan,
I've heard that I cannot use my
Amilink editor if I upgrade to 4.1
Toaster. If this is true, what is the
work around? I can't seem to get in
touch with RGB, and I would really
love to use the new Toaster Paint and
Toaster CG. What gives?
Eric Pollack
San Francisco, CA

This is a problem I hear from a lot of Toaster owners. I used Amilink on a daily basis and upgrading the

"...we like to load title graphics from CG and key them over our studio camera. The problem is, the Toaster doesn't load the CG pages fast enough."

Toaster always meant upgrading Amilink. However, with the latest 4.1 Toaster upgrade, many of you might have to adjust. Unfortunately, Amilink editing system sales have not been earth shattering. What this means for you is an adjustment. You

can (unofficially) figure that there will not be an Amilink upgrade for 4.1 Toaster. So you've basically got two options. The first option is to move to a non-linear system such as the Video Toaster Flyer. Although it would require an additional investment, you'll only need the Flyer card and hard drives, you already have the computer system. And, if you are thinking of moving to a PC platform in the future, your Flyer and drives can move with you. The other alternative is to have both 3.1 Toaster and 4.1 Toaster installed on your system(s). This allows you to have a dual boot to which system you want to work in. For Amilink editing, run 3.1 Toaster. For new TPaint, CG, and 4.1 Switcher, load the 4.1 Toaster version. This would require a larger hard drive, but at least it allows you to use the new programs while maintaining your current editing system. Good Luck!

Dr. Toaster,
I'm hoping you can help with a problem I'm having using my Video Toaster 4000. I really love the system but can't use it the way I need to. When we produce our local programs, we like to load title graphics from CG and key them over our studio camera. The problem is, the Toaster doesn't load the CG pages fast enough. Because of this, we have to edit our program to add titles after we shoot every show. Is there a faster accelerator we can buy to help? Joyce Chang La Jolla, CA

Dear Joyce,

This is a common problem for many Toaster users. The whole Toaster system, (even in version 2.0) is great for all-around video production. That's what it was created for. But if you can't use the CG for titles, you're not getting as much for your money, right? Wrong. There's a simple method for calling up CG pages quickly. Figure 1 shows a simple CG page created as a key page. This page takes roughly 4.5 seconds to load on an Amiga 2000 Toaster 3.1 system as a CG page. As you well know, this time frame is too long for a live production. The solution is to create the same page as a Framestore. From the top of the CG

page, select "Frame page" instead of "Key page." Render out all of your CG pages and save them sequential-

"The solution is to create the same page as a Framestore.

From the top of the CG page, select "Frame page" instead of "Key page." Render out all of your CG pages and save them sequentially."

ly. For example, title one is at page 101, title two is at page 102, and so on. The same frame as in Figure 1 loads in about one second vs. five. With the frame created on a black background, it can be used as a key over live video. And if you're creative, you can fly it in with a Toaster wipe. During the course of the program, simply hit the plus key on the numeric keypad to call up the next CG page. With every page in order, more time is saved because you won't have to search for the right Framestore.

That's about all the room there is this month. But, as always, keep your questions coming via e-mail, fax, or snail mail (the old fashioned way). Thanks for the questions, and keep on Toastin'!

Dan Ablan is president of AGA Digital Studios in Chicago and the author of The LightWave Power Guide from New Riders Publishing. He also writes a monthly column in LIGHTWAVE-PRO. Dan can be seen on the Toaster/LightWave 3D training tours across America, as well as on In. Focus training.

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TOASTER POST

Everyone Knows Our Job

Creating A TV Commercial That Works



by Burt Wilson



riting and producing television commercials has a devastating aspect that we all encounter sooner of later. You and I would never think of walking into a manufacturer's factory or an optician's lab and telling them how to run their business, but *everyone* in *every* business thinks they can run ours!

That's because people watch a lot of TV and they think about TV commercials the way they think about art: "I don't know what art is, but I know

"The real issue is

control. Most clients

are used to controlling

every aspect of their

business, but when

it comes to TV they

draw a blank."

what I like!" And because they watch a lot of it, they think they are experts on writing and production. They groan about irritating product commercials and figure they can

do a lot better, but they still go out and buy that product! Point that out and you'd think you just told them there was no Santa Claus! They're stunned to think they might have subliminal messages in their heads telling them what to buy.

We who make commercials have to deal everyday with the personal likes and dislikes of our retail clients and their "professional" television opinions. The creation process seems to be at the mercy of every client who, after taking the commercial you wrote home to "think it over," calls back the next day and starts out by saying, "Now, my wife thinks..."

This is not easy to deal with, my friends. On the other hand, it's a small price to pay for the opportunity to make a living doing TV and video. Let's face it, if you don't have the tem-

perament to deal with things like this, you're probably better off in the retail business.

The real issue is control. Most clients are used to controlling every aspect of their business, but when it comes to TV, they draw a blank. They think because they taped their kid's birthday all *you* have to do is point and shoot. Unless you take control of a situation like this in a non-threatening, professional manner, you're going to spend more time on the production than it's worth.

Taking Control Of The Project

To take control of a situation where the client thinks he/she knows best, first demonstrate that you understand every aspect of your business. Do this simply by asking questions. The first question you should ask is: "How do you want to position your product (store or service)?" Upon seeing their eyes go blank, explain positioning.

Positioning is the greatest concept ever devised in broadcast advertising. In the old days we did it naturally, but it was the ad team of Trout and Dale (sounds like a vaudeville act) who put it all down on paper. Positioning is based on the premise that nobody advertises in a vacuum. Unless the product is entirely new, people already have perceptions about similar products in the advertising arena, and if you are going to do break-through advertising for your client, you have to deal with preconceived perceptions by positioning your product as different from all the rest.

Breakfast foods are a good example. Wheaties is the

"Breakfast of Champions," and Rice Crispies go "Snap, Crackle and Pop!" If you were introducing a new breakfast food, you would have to come up with a unique position which would not evoke any of the previous images!

An example in reverse: Shakey's Pizza Parlors (an account I handled in my own advertising business 35 years ago) lost a lot of its market share a few years ago. Shakey's was the original pizza parlor, but it was out-positioned by competitors that concentrated on the home delivery market.

Ask yourself, if I were the owner of a new pizza parlor in a big city, how would I position my restaurant to be different from all the others? That's positioning, and if you're not aware of this, you're not aware of the biggest factor in retail advertising outside of the lowest price. Being the lowest-priced is not always that good, unless you're a Walmart or

Price/Costco, because you're locked forever into a narrow profit margin.

Positioning is a good way for you to dazzle your client with fancy footwork and regain control of the project. It also establishes you as a person who is more than just another producer and that you can be very helpful to the client. Believe me, positioning will do it!

The Bells And Whistles

Most clients want a lot of special effects. They see all the bells and whistles on other commercials so they want them too. This is where the Toaster comes in. It's the greatest collection of bells and whistles ever manufactured. Let your client know that you have one and that you can deliver the goods.

Invariably your client, either while planning a commercial or during the post-production process, will ques-

tion a digital move you make or demand a certain one. What do you do then? Look the client square in the eye and say, "Well you know, the eye follows movement on the screen and if we do it your way...." And show him how that fly-off effect leaves the eye at the edge of the screen while that really important information is coming on the screen. You will now see a look of wonder come over you client's face. Hey, he just learned something. It's kind of like being told the real function of the Great Pyramid. He's an insider now.

The next time your client is home watching TV with the family he'll say, "Hey look at that great effect! You know the eye follows movement on the screen and..." he'll go on and on for an hour. And then the family will listen in rapt attention and feel they're insiders, too.

The Phone Number

Have you ever seen a client who didn't want his phone number on a commercial? Fat chance. One of the best ways to pacify a phone number freak is to deliberate a minute or so and do some scribbles on a piece of paper and

then announce: "I'm going to do your commercial in a letterbox format so your phone number will be on the screen the entire length of the commercial. One out of 10 will wet their pants!

Now here comes the client who, after you have finished shooting the commercial, says to you, "I'd really like to do this in a letterbox (they will never use that word, but describe it like how they see movies on TNT) so the phone number will be on the whole time.

You know he will not go for the extra bucks you need to shoot the commercial all over again to allow for letter-boxing (or the expense of an ADO studio) so you look him square in the eye and say, "Harry, how many people do you who know sit by the television set with a pen and paper ready to take down phone numbers?"

A faint smile will appear on his lips and his eyes will go slightly out of focus while he tries to think of a good comeback, but no, you've got him. (It's important here that you don't smile. You lose if you do.) Then hit him with the clincher: "Hey Harry, I just got a great idea. Why don't we put in a picture of

your Yellow Pages ad so people will recognize it easier. After all, that's where people will go to look you up!"

The Socratic Method of philosophy is simply the rhetorical devise of asking questions until you get your opponent to hoist himself onto his own petard! It's done with finesse, not force. You can stand there and smile because your client thinks he did it himself—all you did was ask questions. But only use this method when you are sure of your ground.

And so my friends, onward and upward with the post-production arts! Remember, you are doing this for your client's benefit. You want him to succeed and you know best how to do it. Small retail clients are famous for self-defeat. They think because they run a store they can do everything themselves. By taking control of the production, you're doing your client a favor.

Burt Wilson is the author of "Complete Post Production with the Video Toaster." E-mail him at burtwilson@aol.com and visit his Web site at http://home.earth-link.net/~futurecon.





TAMING THE WAVE

Experiments With Texture

So That's What All That Math Was For



by David Honkins



ey there and welcome to another "Taming The Wave." This month we're going to take a look at procedural textures that apply to all versions of LightWave 3D but will be of particular interest to those using LightWave 5.0. We'll be using the Grid Texture as our primary tool for experimentation because it is a poorly understood (and hence rarely used) procedur-

al that can do some neat things. It's also real easy to see certain placement related issues for explanation.

For the purpose of experimenting with tex-

When you add a Color ple cube centered

Texture, things become a tions and I added

bit more complicated.

Imagine the Texture as a ahead and make

layer of virtual paint

applied on top of the

"normal" color."

tures. I made a simon the X and Z axis setting on and Y=0. The box is 1 meter in all direclabels and markers to designate 100 mm intervals. This will allow us to see exactly what is happening with points of reference to help out. Go this object if you wish, or simply follow along. If you are going to create your own, make

sure that it sits on Y=0 or else you are likely to get different results.

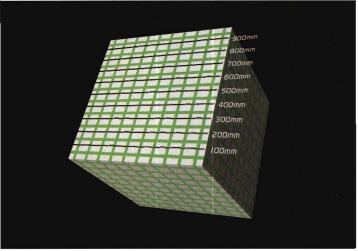
First, let's get a firm grip on how the values work. On the main Surfaces panel, define the "normal" surface of the object. If you set the Color to 200, 0, 0 you'll

get a red color across the entire body of the object. A setting of 0, 0, 200 gives you blue across the entire surface. In our example, if no texture is applied in the color texture button there is no question—the surface will be this color.

When you add a Color Texture, things become a bit more complicated. Imagine the Texture as a layer of virtual paint applied on top of the "normal" color. Where there is no texture painted on, the normal surface color will shine through. Let's take the Grid pattern and see this in action.

Leave the "normal" Color at 200, 200, 200 and go into Color Texture. Choose Grid as your Texture Type, then set the Texture Color to 0, 200, 0 and the Texture Size to .1 on all three axis. Leave everything else alone and render a frame. You'll end up with what is seen in Figure 1.

Notice that all along the outside edges of the cube you see centers of grid squares rather than grid



lines. This is because Grid is a procedural texture (meaning that LightWave calculates the math as it is rendered rather than just pasting the lines on) and the algorithm starts with the center of a grid square. Imagine this in a 2D situation where LightWave would draw a white box (the normal color) that is 100 mm square (the .1 Texture Size). Once this is done it will draw a 20 mm green edge within the boundary of the square (the .2 Line Thickness). See, .2, aka 20% of 100 mm, is 20 mm. Get it?). From there it just continues the pattern, offsetting by 100 mm each time. When all is said and done you have a grid. The illustration in Figure 2 should give you the idea. The red ball is our Texture Center. The green lines are our gridlines that continue infinitely in all directions. Because the bottom of our object sits on the Y=0 axis, and the normal color is drawn in three dimensions centered on the 0, 0, 0 coordinates, half of the normal color extends above Y=0 and half

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below. Let's move it so you'll get a better idea.

Go back into the Color Texture and set the Texture Center at -.05 on the Y axis. Why? Well, if our Texture Size is .1 and we are seeing the center at the bottom, we can shift the center "half a tile" down to get the edge, right? Right. Take a look at Figure 3.

As you can see, the top and bottom edges of the facing portion of the cube now have a 20 mm line edge. The actual top and bottom of the cube are now solid green because the grid line continues into infinity and those faces are sitting on the grid line plane.

By shifting the Texture Center .05 on the X axis, you can cause the same line edge to appear on the sides as seen in Figure 4. Pretty nifty, eh? OK, let's try another trick.

Go back into the Color Texture and set the Texture Falloff to 100 percent on the Y axis. This means that one meter (which LightWave insists on referring to as a unit for no apparent reason) away from the Texture Center on the Y axis the texture will no longer be applied and the "normal" color will be the only one visible. If you set this value to 50 percent, a point two meters from the center will no longer have texture applied, 25 percent would take four meters, and so on. Take a look at Figure 5 for our cube with a 100 percent Y Falloff.

Wow, a smooth gradient! Notice how the "solid" green side panel of the block is now a nice gradation from white at the top to green at the bottom. Here is the secret behind the Gradient block in the TextureExamples scene that came with LightWave. The side panel is much the same as if you were applying a solid color (green) on top of another solid color (white) and blending between the two. We can see the same result in the forward face, but this band of color is visible only on the gridlines. Think about it for a few minutes and you'll understand. A procedural texture exists in all three dimensions whether you're actually seeing it or not. All this procedural is doing is calculating the green lines that will disappear as they proceed up or down. It doesn't matter if our polygon is sitting within

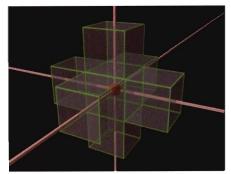


Figure 2.

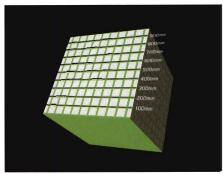


Figure 3.

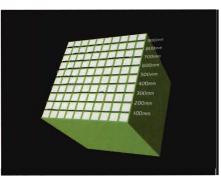


Figure 4.

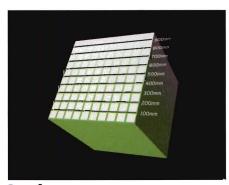


Figure 5.

the grid cells (as seen on the facing polygon) or *on* a gridline (as on the side polygon).

So what else can we do with the falloff trick? Try this one: Move the Grid's X Texture Center to .55, the X Texture Falloff to 100 percent and render again (or look at Figure 6). Why .55? Well, the cube is one meter wide and centered on the X and Z axis, right? The rightmost edge

"LightWave 5.0,

of course, gives us more

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multiple layers of texture

in each of the major

surface qualities."

of the cube is half a meter (.5) from the center. We know that we need a .05 offset to put the gridlines around the edge of the cube, so combine the two values to get .55! Maybe *this* is why they force-fed us all that annoying math in school, huh?

LightWave 5.0, of course, gives us even more flexibility. We can use multiple layers of texture in each of the major surface qualities. If you're using 5.0 (and if you aren't, why not?) go into the Color Texture and click Add New Texture. We'll use another Grid Texture, with Texture Size at .1, .1, .1 again. Put the Texture Center at X=-.55 and Y=-.05 which will place it at the upper-left corner of the cube. Set the Texture Falloff to 125 percent on X and 50 percent on Y. Make the Texture Color a neon blue at 0, 0, 255.

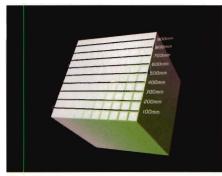


Figure 6.

Add another one. This time the Texture Size is again .1, .1, .1 and the Texture Center at X=.55 and Y=.95. Where did the .95 come from? One meter to the top of the cube minus the .5 we adjusted for the grid edge. Set this color to 255, 255, 0

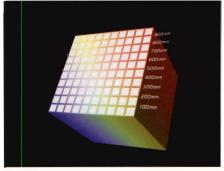


Figure 7.

and the Falloff to 80 percent on X, 100 percent on Y.

The last corner will require one more layer of Grid texture. Texture Size is .1, .1, .1 and Center is X=-.55 and Y=.95. Color here is 255, 0, 0 and Falloff is 100 percent on X and 50 percent on Y.

As you may have figured out by now, all of this control is not limited to the color surface options. Let's add a Transparency Map to the mix and see what we can do. Set the "normal" transparency value to 100 percent. That's right, the surface will by nature be completely transparent. Add a Grid Texture to the transparency channel and set the size to .1, .1, .1. The center is again .05 on X and -.05 on Y. You don't need Falloff this time because we just want to knock out the center of each grid square, but you could use some if you want. Now the important part—Texture Value must be 0 percent. This will make the grid lines (the only part that we're really dealing with here) solid paint on a transparent surface. Render it out or take a look at Figure 7.

Of course, this tutorial didn't create any sort of finished effect, but hopefully it taught you a few things about procedural texturing. While we used the Grid Texture for these experiments, the concepts and operational logic apply to all of the procedural textures. Try switching the Grids to our

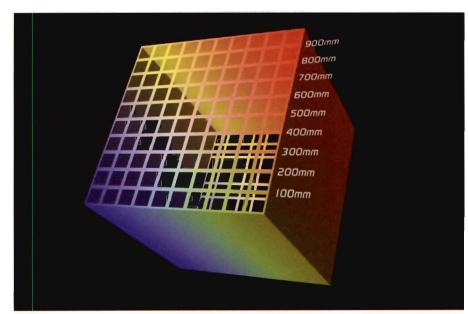


Figure 8.

"Procedurals give you

great advantages over

image maps because they

take no extra RAM to

include and they don't

take long to render."

old friend Fractal Noise, or Underwater, or any of the others. Try combinations. Try adding layers of specularity or reflection in the same method. The combinations are about as close to infinite as you'll ever see. Procedurals give you great advantages over image maps because they take no extra RAM to include and they don't take long to render.

With that, I'll wrap up this installment, but don't let your LightWave education stop here. Experiment constantly! And if you're looking for more LightWave and tricks. tips stop by my Website http://www.primenet.com/~lthouse and drop me a line at lthouse@primenet.com. I'm happy to help where I can and always happy to hear from VTU readers. See you next time!

David Hopkins is a founding partner of Lighthouse Imaging, a Los Angelesbased visual FX and rendering house. He is celebrating (?) his fifth year as a Video Toaster User columnist and hopes to be able to sleep soon.

EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Circle 033 Useful Circle 034 Not Useful Circle 035

CYBERSPACE

Your Own Home Page

GIF Isn't Dead Quite Yet







hy would you want your own home page on the World Wide Web? Think of it as advertising space that anyone with an Internet account can access and about your products and services. A home page can be a catalog of your work, show stills from videos, and offer potential clients a lot of the basic information. Home pages are becoming increasingly important as a

basic business tool.

It is possible to create home pages on the Amiga and upload them to the site provided by your service provider, the following are a number of utilities that will help:

"There are several Format

features of GIF files that versy

have made them popular

fact that GIF files can be

displayed progressively." do not yet support it. Until

GIF: The Undead

The GIF format refuses to die. After the big controwhere UniSys claimed royalties and the development of the superior PNG format, you would think GIF would start to fade away. But on the on the Web, such as the Internet, GIF still reigns as the predominant graphics format for Web pages. PNG was officially adopted in 1996 as a standard for the Internet, but most browsers they do, GIF will live on.

Most of the small graph-

ics you see on Web pages are GIF files. The other popular format is JPEG, but that is primarily for cleep color images. For small graphics, cartoons and other elements, GIF is the format of choice.

If you want to create your own home page on the Web, you need to be able to manipulate GIF images. If you have Art Department Professional version 2.5, you might look for Ramiro Garcia's Batchconverter. It provides a simple interface to load any graphic format that ADPro supports, and batch convert it to GIF (or IPEG) format. You might have a bunch of Amiga clip art that would work perfectly on your page. This would be a fast and easy way to convert it all into something usable for your page.

ARexx to the Rescue

I'm going to digress and cover another archive that you might want to get a hold of if you are an ADPro user. It's called ADPro_Scripts and was put together by Felix Coronado. It is a collection of 28 ARexx scripts. Some of these I have seen before, but there are also some new ones, such as NTSC_to_Square, which scales NTSC images to look right on other displays, Pixelize_Region, which pixelizes an area of the currently loaded image, and Scale_to_Screen, which scales the currently loaded image to fit the render screen while retaining the original image aspect.

I also found a couple of other ADPro related archives from the same author. GIF+Comment is an ARexx script that acts as a pseudo loader for ADPro 2.5. It loads a GIF file while displaying any text comments contained in the file. IPEG+Comment is another ARexx script that acts as a pseudo loader, loading a IPEG file while displaying any text comments.

Because of the requirement to pay royalties if a commercial product contains GIF read or write capabilities, many programs have discontinued support for GIF entirely. For example, Cloanto's Personal Paint removed GIF support in December, 1994. Users of Cloanto's Personal Paint can add GIF capability by downloading their GIF_IO archive available on the Internet. It is in the public domain, so they avoid the royalty problem. The archive also includes a text file on using the GIF format for Web pages.

There are several features of GIF files that have made them popular on the Web, such as the fact that GIF files can be displayed progressively. A lower resolution image appears first, followed by progressively higher resolutions as more of the file loads. This lets users see the image earlier and discontinue the transfer earlier if the file is not what they want.

Another important consideration for Web pages is the ability to have transparent color. This lets you see through the transparent color to the background of the Web page, giving a more attractive look. The older version of GIF, known as GIF87, does not support transparency. If you have GIF files in this older format and want to convert them to an image with a transparent color, you might want to try Andreas Ley's GIFTrans. You can specify the color in the file you want to be transparent (although this is a little tricky as this is a CLI based utility, so you have to specify the RGB value or a color name, like white or black). It includes a file of RGB values and the corresponding color name.

An even more important feature of GIF (and I don't know if this is supported by PNG) is the ability to make animated GIF files. A lot of people don't even know about this capability. A Web page can have animation using client push or server push methods, where the

images are squirted through the Internet one at a time. This means your browser is continuously receiving data for as long as the animation plays—a rather bandwidth intensive way to do animation. A simpler way is to transmit a file that works just like an Anim Brush. It can then be cycled continuously for as long as you want, without requiring additional data from the Net. This is exactly what an animated GIF file does.

I have yet to find a utility to do this for my PC (although they seem readily available on the Mac). I have, however, located a utility that will make animated GIFs on the Amiga-WhirlGIF, written by Kevin Kadow and converted to the Amiga by Lars Eilebrecht. WhirlGIF takes any series of GIF images and compiles them into a single file that is compatible with browsers such as Netscape. It also lets you set transparency, specify delays between individual frames, and add the Netscape loop extension. While WhirlGIF is a CLI based program, it is pretty simple to use and well worth having if you want to create a Web page. Animated graphics can add a lot to the visual appeal of your page.

So, now you've got the GIF and IPEG images and you have written the text. How do you put it all together? Web pages are created using the Hypertext Markup Language (HTML). The files are plain ASCII and can be created using any word processor that lets you save the files in ASCII or txt format. The trick is to learn how to add the codes that make it into an HTML file. You can use the simple utility that I wrote about a couple of months ago (Guide2HTML) to convert AmigaGuide files into HTML, or you could simply type in the proper commands by hand to an existing text file.

There are bountiful resources on the Internet to teach you HTML. A great place to start is http://www.link-finder.com/html-www.html. It contains links to 75 documents, including "A Really Quick Guide to Good HTML," "Beginner's Guide to HTML," and "Guides to Writing HTML." Another large collection of links to HTML instructional articles can be found at www.gov.nb.ca/hotlist/htmldocs.htm. It has over 60 links, many of which are dilferent from Linkfinder.

Another resource is HTML30GU, which contains information on HTML

3.0 in AmigaGuide format. It contains the text from the HTML Working Group, converted by Jerome Louvel.

If you have Workbench 3.0, there is an excellent solution to simply creating HTML documents. It is called Magic them. For this you need a Web browser. Keep in mind that a browser alone will not get you on the Internet—you need a service provider and you need to install a network package such as Miami, AmiTCP, as225r2, inet225 or mlink.

"Voyager has a versatile hierarchical bookmark system, allowing export in HTML format, menu selection and drag and drop sorting."

World Wide Web Maker (WMW.lha) and was written by Massimo Baglione.

MWM gives you a simple GUI in which to create your HTML files. The first step is to load in a text file. Once a simple text file is loaded, you see it in the Main Window. Use the left mouse button to select part of the text by dragging or by clicking. The Action Gadgets let you make an active link to that text. The link can include lists, text, images, hyperlinks, or anything available in the HTML 3.0 specs. You can easily mark a section of text with a label (bookmark) and then edit another text file to jump to that particular place in the file. MWM supports several link types including file://localhost/, http://, ftp://, mailto:, news:, gopher:, and telnet:.

While the display is not WYSIWYG, there is a VIEW Gadget that lets you call a program like AMosaic to see how the page looks at any time. MWM makes basic Web page development very easy, and is definitely worth a download.

Another option is for owners of Softwood's Final Writer. CBSv16 is a collection of macros created by Chris Schnurr which adds button strips that make creating basic HTML documents a simple task.

While we are on the subject, if you have a Web browser that can display HTML files and you have a lot of uncataloged JPEG and GIF files, you might want to get Levas Vabolis' AutoIndex. Give it a directory and it creates an HTML document with all of the file names of all of the JPEG and GIF files in that directory. Load it into a browser, click the filename, and the picture is displayed.

Once you have created the HTML files, you might want to actually view

One of the latest browsers I have seen is called Voyager written by Oliver Wagner. It has a number of features that make it worth considering. Voyager is about twice as fast as any of the other Amiga browsers. It supports the full HTML2 standard, including forms, as well as many proposed HTML3 extensions. Voyager also supports Client Side Image Maps, and Netscape-Level 1 (NHTML) extensions, including <center>, floating images, background images and text coloring (both RGB and named colors). It even allows HTTP access authorization, usenet news reading and posting, direct interfacing to mail readers and telnet clients, and document cache with optional automatic last-modifieddate-based verify. Voyager has a versatile hierarchical bookmark system. allowing export in HTML format, menu selection and drag and drop sorting. It works with true color displays with V43 data types. The only bad news is that it requires MUI installed (see "Cyberspace," December 1995) and only works under Workbench 3.0.

Everything this month can be found on the Internet. As usual, if you want the utilities covered this month, I have put them all on a disk which you can have by sending \$5 to: Geoffrey Williams, Home Page Disk Offer, P. O. Box 10095, Glendale, CA 91209. Please make note of my new e-mail address: cbp@cris.com. My old account is no longer valid.

EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Useful Circle 028 Circle 029 Not Useful Circle 030

SLICES

What's In The Box?

Toaster 4.1 Goodies and TV 101



by James Hebert



y the time you read this, you should have System 4.1 in your hands. If not, shame on you! Get back to the office and finish that last project so you can bill it and order your upgrade with cash and not credit. However, if you're ordering on credit—I could use a new car. Yeah, that's it. A new car.

When I was touring and training for NewTek, I often taught editing and titling classes (Switcher, Flyer

can enter ToasterCG, select Load, navigate to the CG/Frames directory and load one right up. If you're feeling brave and want to give ARexx a try (hey, it's just another double-click thing—I promise, no batch text file stuff!), press Alt+F1 to display the ARexx launch requester, select BatchLoadPages.rexx, and then select the directory from which to load pages. All of the pages in that directory will be loaded into ToasterCG. Then you can study them at your leisure.

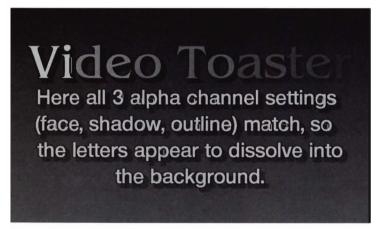


Figure 1: Proper use of the alpha channel to create transparent text.

Editor and ToasterCG). Some of the material I used at that time found its way into the new 4.1 software, where I hope it will teach and inspire you.

When you purchase the new software, take some time to poke around the CD. You'll find some nifty surprises. For example, look in the directory named CG, in a subdirectory named Frames. There you'll find a slew of text pages that I created over the years in an attempt to help explain the ways ToasterCG can be sued to create some terrific looking graphics. Not being an artist (I could not draw my way out of a box), I find tools like ToasterCG and LightWave incredibly useful. Built-in functions in both programs allow me to create slick-looking graphics with drop shadows, soft edges, smooth gradient blends and highlights.

There are 30 files in the CG/Frames directory, plus additional ones in the other CG page directories. Take the time to study them. Remember that ToasterCG now saves all page information (page type, fonts, text, coloration, etc.) within the same file as the graphic image itself. The concept of 100 pages being equal to one book (which used to be saved within one project) is no longer used, although it is supported for the purpose of loading your older files into the newer software. So you

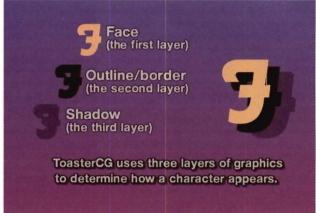


Figure 2: How ToasterCG treats face, outline and shadow.

By the way, if you have a LightWave CD for one of LightWave's many platforms, put it into an audio CD player and jump around deep in the track count. You may find a surprise somewhere back in there. When you do, tell me what it means! For all I know, there may be hidden audio goodies deep in the latter tracks of the 4.1 release too.

Goodies

Here are some samples of the types of CG text tutorial pages you'll find:

- •Image 1: (filename: alpha2.jpg) Proper use of the alpha channel to create transparent text.
- •Image 2: (filename: text1.jpg) How ToasterCG treats face, outline, and shadow.
- •Image 3: (filename: text6.jpg) Some tricks you can create with "homemade" shadows.
- •Image 4: (filename: science.jpg) Fooling around with gradient and transparent boxes. All this graphic needs is the head of a frog blended into the background to make it all the more appealing.

Finally, I collected and converted a set of PostScript fonts from America Online and Compuserve that I found useful, and gave out at my seminars. It included some cool ornamental fonts as well as some very cool, highly useful fonts. One contains nothing but the circled R (registered), circled TM (trademarked), and circled C (copyrighted) symbols, in serif and sans serif styles, so they work with just about any other font. Another contains station ID logos for CNN, HBO, ABC, affiliate stations, and more, all in PostScript format. If you're interested in obtaining these, check out the NewTek BBS and ftp sites. They'll be on-line by the time you read this.

Studies in Television for the Novice

The bread and butter of video production hinges on just a few key items: an intriguing story, solid production values and innovative editing. The Toaster gives you these tools, and more. Have you ever heard the phrase "Good. Fast. Cheap. Pick any two?" Even with video, you can be less experienced in one of these areas and still get by just fine.

Obviously, the Toaster comes into play in the "after the shoot" stage, where graphics and editing are crucial. If you're beginning in this field, you've heard about (or mastered) the concept of in-camera editing, where you shoot carefully and consciously so that when the shoot is finished you can view it comfortably without wishing too often for the shot to end. There are rarely opportunities (or time) for that lengthy art shot, or to retake a long slow zoom that reveals an important element in the program. No one wants to see the same shot twice. So you plan the shot, rehearse it if there's time, then go for it.

From there, you've probably decided that titling is useful. In fact, titling is critical since you need to identify and protect your work, as well as that of the customer. (Besides, as Nick Ferentinos, one of my mentors in journalism said, on a near-daily basis: "Remember people: names make news. People make things happen. And people like to see their names in print." In my mind, I always add, "And on the screen, too.") At first you make your own titles, on paper, using rub-on letters, or capturing a shot off your computer screen, and recording a few seconds at the appropriate moments in your production. Credit everyone involved with your work.

When I started, an embarrassingly long time ago, I remember using a cheesy titling package for the Commodore 64 in order to add nicelooking titles to my work. Sure, I was doing weddings dragging around gobs of equipment (does anyone remember when a camera outfit consisted of two separate pieces of gear—the camera and the VTR?). But I actually got business out of including the names of the bridal party, the photographers and the cater-



Figure 4: Fooling around with grodient and transparent hoves

"Remember people: names make news. People make things happen. And people like to see their names in print." ...! always add, "And on the screen too."

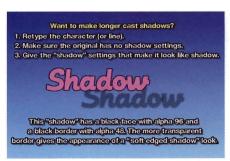


Figure 3: Some tricks you can create with "home-made" shadows.

ers. Their names were included because of their role in a video turned into additional business for me. Try it, it works.

Once you have the ability to create titles, you find yourself yearning for the chance to capture picture-perfect stills. It's always been fascinating to me how

you can use different aspects of television to capture the viewer's attention. Still frames are one such device. Remember that television is a medium of constant movement. Something is always happening on screen. But have you ever noticed how effectively a still image captures your attention? Or how well a series of stills demands that you watch? Suddenly the movement is halted, and the viewer looks at the screen with a fresh perspective. Something is different, and their attention is heightened. Used rarely, this mechanism never fails to gather crowds.

Conversely, photography is a medium of still images. A photographer friend of mine knows how the addition of apparent movement to his work adds an tangible difference that he feels in his wallet. Mark Heimlich is always being asked to produce something that you might think of as a multimedia show for the special events that he captures. An example that you may have seen is a popular wedding day slide show of the bride and groom. Often, this is made up of a series of slides of the couple from childhood to adulthood. Using a pair of slide projects and a portable boombox, Mark times the entire playback to music that the couple has chosen. The flowing music and the dissolving slides inject life into the stills on screen. Suddenly, there is movement where before there was silence and a bunch of frozen images. The presentation never fails to draw huge applause.

Use the medium of video and television to communicate, and be creative in your methods of communication. Try to find new ways to get the point across. Remember when the "handheld" camera look was new? For 40 years camera operators anguished over methods for holding the camera steady. Today, it's difficult to find a program that uses a tripod. This style of camera work was made immensely popular by MTV's arrival on the entertainment scene. The majority of the summer movie The Rock was filmed in the hand-held (some call it MTV) style. While it works for the small screen in three-minute increments, it drives you bats on the large screen when it lasts over two hours.

Interestingly, MTV also influenced video editing, which is now faster than it has ever been. Few shots last on

WHO GETS THE CALL WHEN A CRISIS THREATENS BRITISH NATIONAL SECURITY? JAMES BOND, OF COURSE. BUT WHO DOES JAMES BOND CALL WHEN THE PREMIERE OF GOLDENEYE IS ONLY THREE WEEKS AWAY AND THE DIRECTOR IS IN DESPERATE NEED OF SOME LAST-MINUTE DIGITAL EFFECTS MAGIC? MARQUES, ALAN MARQUES—THE DIGITAL EFFECTS SUPERVISOR OF THE MAGIC CAMERA COMPANY. WITH THE DEADLINE HURTLING TOWARD THEM FASTER THAN A RUNAWAY SATELLITE, MARQUES AND HIS ASSOCIATES COMPLETED THE MISSION AND SAVED THE CELLULOID FREE WORLD—WITH A LITTLE HELP FROM LIGHTWAYE 3D.

THOUGH MOST OF THE GOLDENEYE EFFECTS DIDN'T ENTAIL EDGE OF THE CLIFF SCHEDULES, THE CLOCK ALWAYS

LOOMED. FOR EXAMPWHICH MIGS' DO A FLYBY

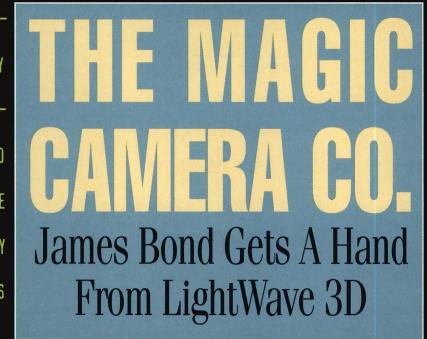
SATELLITE DISH, MAMARKS) ACQUIRED

VIEWPOINT TO SAVE

BECAUSE THE FLYBY

MOTION BLUR WAS

LIGHTWAVE SCENE.



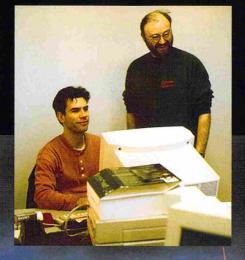
LE, IN A SCENE IN OVER THE SVENKA ROUES (PRONOUNCED THE MIG MODEL FROM MODELING TIME. WAS SO FAST AND BEING ADDED TO THE MARQUES WAS ABLE TO

RENDERING. THE EFFECT WAS THEN COMPOSITED OVER THE LIVE ACTION SHOT. NOT EVEN MARQUES COULD TELL THEREAL FROM by Dick DeJong and Molly Dinkins THE DIGITAL.

MARQUES ALSO CREATED THE GOLDENEYE SATELLITE IN THE OUTER SPACE SEQUENCE. OF COURSE, ANY RESPECTABLE SATELLITE SHOT WOULD NOT BE COMPLETE WITHOUT A LIGHTWAVE GENERATED LENS FLARE. A FLASHY FEATURE ANIMATORS LOVE TO HATE, MARQUES WRYLY ADMITS IT'S INDISPENSABLE.

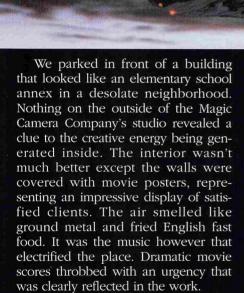
Cinemagicians

The Magic Camera Company is located at the venerable Shepperton Studios, a 62-year-old film production company nestled in the countryside about an hour by train southwest of London. Marques picked us up at the station and drove us to the studio.



two Raptors networked into the system to do the rendering. Marques also purchased a PC to run LightWave but hasn't resolved a video card compatibility problem.

Although Marques figures that 80 percent of their digital work is 2D—like removing the anachronistic tire



Music from *Crimson Tide* accompanied our dizzying tour through a labyrinth of rooms. It quickly became apparent that this was not your average garage CGI outfit. The Magic Camera Company is a full service effects facility. They have designed weaponry for *Braveheart*, constructed miniatures for the Camelot sequence in *First Knight*, shot motion control photography for *Interview with the Vampire*, and created optical effects for *Batman*. They've supervised blue

screen shoots for *The Muppet's Treasure Island* and multiplied armies for Kenneth Branagh's new production of *Hamlet*.

Their studios are replete with traditional motion control cameras and model making shops. For their digital effects, they utilize a Domino film scanner and eight SGI Iris Indigos run-

"Marques and assistant,
Evan Davies, have paid their
spaceship dues. They spent
weeks modeling and texturing the skybus for
Cyberjack."

ning Wavefront, Matador, and Flint. What's surprising is that amongst all this high dollar hardware and software sat an old reliable Amiga 4000 running LightWave 3D. Of course, they have

treadmarks from a castle shot for *Hamlet*—one of his most recent projects again called for LightWave. Terry Jones of *Monty Python* fame is filming a live action version of *The Wind in the Willows*. A shot called for a spanner (a wrench to us Yanks) to spin through the scene. After a tricky bit of matching lighting and motion, the LightWave object looked seamless.

In another shot for the film, Marques constructed a great LightWave dragonfly to antagonize the protagonist, Toad. (As you can imagine, Toad got in the last lick.)

Doing Time in Outer Space

Marques and assistant, Evan Davies, have paid their spaceship dues. They spent weeks modeling and texturing the skybus for *Cyberjack*. One of their tasks involved landing the 3D skybus into a live shot of a detailed cityscape that the modeling department constructed. The live sequence was filmed at high speed. A fine layer of dust was then applied to the model landing pad, and a blast of air was shot onto the pad to create the swirl of dust when the skybus docked.

With the sequence as their reference, Marques and Davies turned to LightWave to fly in the skybus. Marques believes that careful lighting is a critical element in conjuring the illusion. This scene in Layout employed 29 separate lights. The LightWave frames were then composited over the original shot using Matador. The whole process typifies the Magic Camera Company's approach to accomplishing effects: They use whatever techniques work for the shot, whether traditional or cutting edge.

Marques personal history is also an eclectic blend. Marques was not your typical computer nerd, in fact he never owned a computer until he was in college. As a kid in County Dublin, Ireland, Marques loved to paint, draw and build models. At age 16 with his first airbrush, he seemed destined to be a graphic illustrator, and indeed, he studied graphic design at art college. But after realizing how many graphic designers the colleges were churning out, he switched to film and TV classes.

Marques always loved science fiction

Seventh Voyage of Sinbad. In college, he was the only one creating special effects, so he built his own front projection system and did stop-motion animation.

Fresh from film school in 1983, Marques got his first job with Computer FX, one of only three companies in London that were doing computer graphics for film and TV. "This was very early technology," Marques said, "all wireframe." After a downturn in the economy in the early 90's, he was made redundant (in other words, he was laid off). So Marques started his own company based around two Amigas. "It was the only computer platform at the time with good 3D software," he said.

He landed a contract with Gerry Anderson's new cartoon series *GFI*. (Gerry Anderson's *Thunderbirds* series also inspired Ron Thornton, creator of *Hypernauts*.) Marques produced the line drawings for spaceships using Imagine. The drawing were then printed on paper and sent to Russia where the cels were painted. This exercise in artistic Glasnost proved disastrous. The Russians paid little attention to timelines or registration marks. Marques worked on the project for a year and not one frame ever illuminated a cathode ray tube.

During this time, the Magic Camera Company asked Marques to consult on scripts that had CGI components. They quickly realized his potential and offered him an office and a phone if he

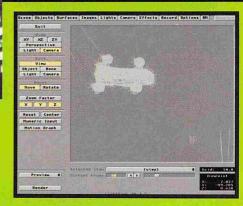


Marques and Davies used LightWave to fly in the skybus, with lighting as the critical element.

films like Forbidden Planet, 2001, and Star Wars, but it never occurred to him that he could do special effects until he entered film school. He was fascinated by the dynamation techniques of Ray Harryhausen in such classics as The

moved his company on-site. Then they asked him to submit a proposal for establishing a digital effects division. After months of research, he purchased the computer equipment, the department was founded and he was hired to







Using the actual model of the plane from the set to save modeling time, not even Marques could tell the digital from the live-action sequence in this MIG fly-by scene from *Goldeneye*.

head it. That was almost three years ago and he has been busy ever since.

Not all of the work has been for the likes of James Bond. Marques created LightWave special effects for *Space Precincts*, the mercifully short-lived Canadian TV series a friend tagged "Starsky and Hutch in space." Again the show mixed models with CGI. Marques planned to rely much more heavily on LightWave to keep costs down, but alas, the show wasn't renewed.

Slices continued from page 23

screen for the traditional "3-5 seconds" that I was taught. In fact, anything over 6-8 seconds is often boring! The amount of information that you can pack into a series of fast-paced visuals is astonishing.

Watch the kind of television that appeals to you and study why it appeals to you. Do you gravitate toward MTV? If so, what kinds of programming, which forms of video? Do you prefer hard-hitting news programs? If so, why one over the other? Is it their production style, their graphics, their talent? If it's their graphic design, study the color scheme, the elements and their placement on screen, the font family they use.

The Internet is an incredible source for graphic ideas. Visit World Wide Web sites of all kinds and you'll find some of the most cutting-edge design in the world on your computer terminal doorstep. Remember that Web page designers have to work with an aspect ratio of 4:3, just as you do. They have a limited palette of colors to work with, just as you do. And there are some very cool sites out there. More than I will likely find in my lifetime.

If you don't have access to (or time

LightWave Clean Up Crew

All too often, Marques receives a plea to salvage a shot. In fact, during our interview, a call came in asking how much it would cost to repair some scratched footage. A favorite example of his movie magic rescue comes from *The Wind in the Willows*. One of the characters, Ratty, has a frightening, realistic tail that must be seven feet long. The model shop molded it from squishy gray foam, complete with follicles and hairs. It was disgusting to see and creepy to touch.

The problem was, in a long shot of Ratty in a rowboat, the tail did not show up. So back to Modeler where Davies designed a CGI tail to match the real one. With a little compositing, the tail now ripples the water as it hangs over the side of the boat. Terry Jones was happy, and with a little assistance from LightWave, the Magic Camera Company lived up to its name again.

As for future projects, Marques has been busy working on a concept for an animated kid's show called *TimeQuest*. The details are still under wraps, but Marques is eager to test LightWave 5.0

on the SGI Indy he just bought for his home. He hopes to use push LightWave 5.0 as far as it will go. Though 5.0 satisfies many of his needs, his wish list still includes LightWave generated hair, snow, rain, smoke, good lip-syncing, stop action features, and the ability for vehicles to roll across uneven terrain.

But this article is about movie magic. Where better to end it than in the south of France. A month after our first interview, we saw Marques again at the British Pavilion at the Cannes Film Festival. Marques was demonstrating the Quantel Matador system and marketing his wizardry at this international cinematic circus. On the monitor, a motorboat was riding the waves into the sunset: then, Matador replaced it with the Muppets pirate ship. With LightWave's improvements and ever-expanding possibilities, we can expect more alchemy from the Magic Camera Company. For now, don't miss the upcoming Hamlet, and round up the kids to see The Wind in the Willows.

VTU

When Dick De Jong and Molly Dinkins are producers for Multimedia Associates. If you have story ideas from faraway places, e-mail them to mma@eden.com.

"Remember that Web

page designers have to

work with an aspect

ratio of 4:3, just as

you do. They have a

limited palette of

colors to work with,

iust as you do."

for) the Web, look at the industry magazines for television and video production. You'll find anywhere from a few to a dozen good ideas in any given issue of *Post*, for example, or *Millimeter*. Keep a clip file so that you can refer to it when the muse doesn't strike you. It is neither good form nor good practice to rip off someone else's

ideas (there's this thing called copyright), but it's fine to use design elements and approaches. If someone texture maps the Earth onto a cube, think of ways you can mix-and-match graphics and shapes that will support your project.

If you own a Video Toaster or Video Toaster Flyer editing system, you're fully fitted with the tools you need to produce high quality videos and programs. Study the work of the stations, artists, and video producers you find yourself watching. If you notice how they get your attention, then you've got insight into the things that interest you, and will likely interest your audience.

James Hebert (james@quivis.com) is a technical writer for QuVis, Inc., maker of QuBit and other products. His credits include manuals for the Video Toaster, Flyer, LightWave 3D and others.

EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Circle 028 Useful Circle 029 Not Useful Circle 030



ou're breathing pretty heavy as you lurch down the dimly lit corridor. A perky, holographic display emitted by your helmet says you're almost home free. Better be. The guy who invented this bulletproof, laser resistant, artificially intelligent suit of armor clearly never tried to run in it. Not in this gravity. The air reeks of burnt

hair, probably your own, but you take a long, deep breath and hold it. The caffeinated water vapor they use to humidify these office buildings should give you a little boost. You'll be needing that—plus a good sized miracle to get past those robot guards with the radical looking arsenal pointed your way. Welcome to the year 2015, or thereabouts. It's a good day to die.

Your perspective shifts slightly. You're seated in a dark fortress. Stacks of big, fast computers are arranged all around you like a set of incredibly expensive Lego blocks. You're watching the dimly lit corridor slide across your monitor. You built it in LightWave 3D and now you're navigating through it in full screen, real-time 3D. An exquisitely rendered explosion fills the screen, scattering those pesky guards. You smile in approval as the cleanly textured surfaces of the flaming robots fly off in all directions, never losing resolution. Welcome to the year 1996. It's a good day to make a game.

Blazing

The game inclustry is hot. When E3, the Electronic Entertainment Expo, lit up the Los Angeles Convention Center in May, it was a revelation. Sure, we all knew the game business was in an upswing, but the sheer size and scope of this new gameswell, the flamboyant spectacle, the gleeful and energetic flinging of money at new ideas and technologies, the sheer volume of games, game companies and game

Westwood Studios, BlueSky Software: These are just a few of the smart game companies using LightWave to create their stunning graphics. LightWave is

"From the biggest companies...to the guy in his garage...
LightWave is the package that allows
3D artists to give shape to their dreams."

being used to create games for PCs, arcade machines and game consoles like the Sony PlayStation and the Sega Saturn. Titles like *Bladerunner* and

ing LightWave users even more amazing possibilities. From the biggest companies with the most lavish budgets to the guy in his garage creating a personal vision, LightWave is the package that allows 3D artists to give shape to their dreams.

BlueSky

BlueSky Software stands in an enviable spot, where the talent of the independent, innovative company intersects with the power of the big, corporate conglomerate. Over the last few years they've produced a string of good sports games and hot action titles like Jurassic Park 1 and 2, Ren & Stimpy and Vectorman. A recent alliance with Inscape (formerly Warner Interactive), has suddenly provided them with the cash and clout to expand the size and scope of future projects, as well as a five-game deal which will allow BlueSky to really push the creative envelope. We decided to pay a visit to their corporate office in San Diego, CA to see where the rising stars at BlueSky are headed.

There is always a danger that rapid



LightWave3D IN GAME DEVELOPMENT

by Joe Clasen and Susan Ishida

divisions was enough to vaporize the socks off anybody. Next year, E3 will be in Atlanta because they need room to grow. Inching our way past the 12foot-high Aeon Flux, the bucking cockroach ride and the three-storyhigh castle, we made our way into the flashing, thumping maze of fighting games, role playing games, simulators, sports and kiddy titles. Two things became very clear. First, there are a heck of a lot of games being developed. Second, most of them are using 3D graphics. From dancing cockroaches to kickboxing geishas, 3D is the eye candy of choice. For smart game developers, LightWave 3D is the software of choice.

Interplay, LucasArts, Virgin,

Lands of Lore (Westwood Studios), Assassin-2015, KGB, and World Series Baseball (BlueSky Software), and Deadly Tide (Rainbow America for Microsoft) get their good looks from LightWave. Powerful new features like MetaNURBS and Metamation are changing the way we model and animate. Characters have never been easier to create and the flexibility and control these tools offer is unique to LightWave. The new GL-shaded display options in Modeler and Layout are bringing a new ease and intuitiveness to the whole process of creating 3D art. Surfacing, inverse kinematics, bones, lighting and dozens of other excellent features have been enhanced and will surely continue to evolve, giv-

growth and success can turn a creative and personal company into just another dull, impersonal assemblyline. I think we can safely say that BlueSky has dodged that bullet. On arrival, we are met by a friendly and helpful receptionist who greets us from where she is seated, under her desk. She's just tidving up, she explains, because it is a Friday afternoon and sugar fiends from the traditional Friday cookie hunt have just ransacked the front desk looking for clues. She reappears with chocolate chip cookies and Matt McDonald, Art Director and EFX Coordinator for Assassin-2015, BlueSky's latest labor of love and the first of the series of games that will be produced for Inscape. BlueSky's 70

employees are currently working on eight game titles, and their PC, SGI and Amiga filled offices are buzzing with a hybrid blend of serious work and serious play.

Killer

Assassin-2015 opens with a lavishly animated sequence set in a dark, gritty future. You're wandering the streets of some heartless city. You duck into a diner to escape the relentless rain and fog. Here, the game unfolds. Who are you? Who must you kill? Who can

you trust? The game is one big, interactive world and all the characters and environments have been beautifully modeled, textured, animated, lit and rendered using LightWave. As you maneuver through this world trying not to get blown away, a series of animated sequences is triggered, all depending on the choices you make. There are almost 25 minutes of animation in Assassin, not even

counting all the ani-

environment

mation in the game

Assassin provides fast

action with a solid storyline and great

characters. It features

itself.

the lush visual quality and complexity of Myst, but without all the annoying puzzles to slow you down. "Inter-Action Movie" is the term they've coined to describe their ambitious new creation. Like any good action movie, interactive or otherwise, Assassin combines fast paced thrills with interesting characters. Also, a lot of stuff gets blown up. Wavefront Dynamation was used to make the effect of the explosions accurate. The results look very convincing, although Matt reminds us that it wasn't easy to accomplish. Despite the best efforts of some very bright and talented animators, the software stumped the team. So they finally called in a physics teacher.

The characters in Assassin move beautifully, thanks to the use of motion capture which BlueSky is pioneering for use with LightWave. Matt provided all of the motion himself, including the menacing walk of a hulking robot with backward-bending knee joints, like that of a large bird. He solved the reversed knee problem by simply walking backward. BlueSky's proprietary motion capture code reads .mov and .cap data files and exports them as Lightwave scenes. The motion

> information is applied to the appropriate character, modified by the

animator until it looks perfect. and then rendered. The characters are usually rendered against a bluescreen and composited along with a variety of other

elements to create the finished animation sequence.

The cost of the motion capture isn't cheap, running at approximately \$1,000 per finished second. But the results are impressive. The element of real human motion brings the characters life to, even

if they happen to be robots. Also, Matt notes, once they have the motion information, they can always reuse it. Thanks to the generosity of BlueSky, their motion capture software as well as their proprietary lip synching software will likely become incorporated into a future release of LightWave.

At the heart and soul of Assassin are its characters. Created by Chuck Osieja, executive producer of the Assassin project, the characters were initially part of a game Matt and Chuck were creating. Matt showed the work to Warner. Warner liked the characters. Not only did they want to use them for the music video, they formed an alliance with BlueSky to produce the

game.

If Matt and Chuck have their way, Assassin will be much more than just a game. The comic book, Assassin-2015, Reflections of a Killer, combines rendered LightWave images from the game with 2D art and text. The first edition will be packaged with the game, due to be released in September 1996. Matt hopes that the game and the comic will grow into an ongoing series, with the comic providing extra narrative as well as instructions and clues for playing the game. There may even be a tie-in with the music video, bringing the project full circle.

The BlueSky is the Limit

We asked Matt why he chose LightWave, rather than Wavefront Alias or SoftImage, both of which are used heavily in the game industry. His answer was emphatic. LightWave offers more power at a fraction of the

> cost of competing packages. "For the cost of Wavefront Alias software alone for one seat, I could set up 10 people with LightWave, including hardware! I don't know how other developers expect to make money when they are spending \$50,000 to

\$100,000 per seat."

And what about the additional support fees? "Upwards of \$10,000 per year for a full suite, and you have to pay before it comes out. You don't know what upgrades there are



going to be, if any. Mostly bug fixes from the previous version. You also have the cost of maintaining the box. SGI owns Wavefront/Alias. Most people get support through them. Irix (operating system) upgrades don't come cheap, I have

two Wavefront upgrades
on the floor that I
can't use 'till I
upgrade Irix.
Twelve thousand dollars!"
Assassin is

Assassin is primarily a real-time 3D game, running on BlueSky's proprietary "g3D" ray-casting engine written by programmer, Kevin Bacca. The

environment is, of course, all LightWave. The player is free to move in all directions, but naturally, a wrong turn can lead to an untimely demise. Here, and discreetly woven throughout the game, are pre-rendered animated sequences which provide special effects, help from friendly characters and other critical game elements. Both types of game play have their strengths. The real-time 3D play, the bulk of the game, gives players the ability to move freely in the game environment. This gives the game greater speed and more flexibility than games which consist entirely of pre-rendered sequences. Not everything, however, is best suited to real-time 3D. Lavish explosions and lengthy cinematic dialogue scenes, for instance, are prime candidates for prerendering. By pre-rendering some animations, artists can take advantage of any and all graphics tools and LightWave options available. Traced shadows and reflections, compositing, morphing and other time-intensive effects are all rendered and played back as animation sequences. By intelligently and creatively weaving together realtime and pre-rendered elements, the game combines the best of both worlds. Game players get fast and flexible play. Game creators have more control over the storyline and can develop a more complex plot than simply running and shooting. But don't worry kids, there will still be plenty of running and shooting.

Building a Better 3D World

A lot of people, including Bill Gates and most LightWave users, are betting that 3D will become the standard for game graphics, web sites, personal avatars and much more. A number of hardware companies are working

furiously to bring full-screen,

full-motion, full-24 bit textured 3D to your personal computer in real-time, right now. (Or at the very least, by this Christmas. You might buy it as a separate 3D acceleration card, or it might simply be built into the next graphics card vou buy. The 3D cards, currently or soon selling in the \$300 to \$500 range, will

"Game creators have more control over the storyline and can develop a more complex plot than simply running and shooting.

But don't worry kids, there will still be plenty of running and shooting."

give you anything from the graph-

ics quality of a \$200 Sony PlayStation to that of a \$40,000 SGI Indigo Extreme. Frankly, the idea of getting an "SGI killer" for \$500 intrigued us, so we decided to investigate. We visited Triac Software, a small start-up company which is producing a real-time 3D game to run on the 3Dfx board, using the 3Dfx custom "Voodoo" chip set, currently considered by most to be the cream of the 3D acceleration crop. Half a million lit, shaded, textured polygons rendering and displaying at 30 frames per second. We were pretty impressed. So impressed, that we've spent the last six months working for Triac, producing LightWave graphics for their game.

Triac is one lean, mean, gamemak-

ing machine. The corporate office is in Laguna Beach, CA, right on Pacific Coast Highway. Actually, most of us don't work on site. Chris Morrow, founder of Triac, believes in the virtual office and the virtual company. The Triac artists and programmers are contractors rather than employees. We work out of our own homes and studios, using remote access to connect to the main office via ISDN lines. It's the perfect solution for people who tend to work odd hours and are prone to fits of inspiration at two in the morning.

Driving Force

Power Circuit will be Triac's first game. It's one of the first games being created for the new 3Dfx board and it's the first real-time 3D game most of us have worked on. We're all pretty experienced in our own fields, most with extensive game or aerospace backgrounds, but this is uncharted territory. The action isn't pre-rendered. it's being built and 24 bit textured in real time as the game is played. The physics of the game (the collision detection, the collisions, bounces, tumbles and crashes) are also being calculated and applied in real time. Power Circuit is a driving game set in an amusement park in the near future.



The track is one huge rollercoaster and the cars are electrically charged bumper cars with nasty, but non-lethal weapons. We create the objects for the cars, track and environment in LightWave and the programmers figure out how to put them all into the game and make them behave properly. To ensure that the game will run at full speed (rendering and displaying at 30 frames per second) our total polygon budget for the game is about 7,000 triangles. It's quite a challenge, considering that we need to turn those 7,000 tris into three miles of smoothly looping, twisting rollercoaster track, eight cars and an enclosed little world for

OZware's Co-Pilot

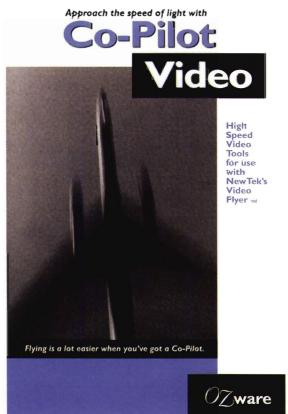
High-Flying Tools for Video, Audio Editing

ou can tell right away that this software is written by a video editor for video editors. Co-Pilot Video is the first in series of programs written by Emmy Award winner Michael Holten of OZware, an up-andcoming software firm near Seattle. Nicknamed "Aussie" by his friends and Toaster users because of his Australian roots, you'll find a "G'Day" amount of humor and good vibes in both the documentation and calls to tech support. I like this stuff! Co-Pilot Video provides friendly tools designed to save time when piloting NewTek's Video Toaster Flyer non-linear video editing

At the outset, Holten lays out the plan: "If you're still adding time code numbers, or doing the same steps over and over, then you're wasting time. The original goals for Co-Pilot are three-fold: First, to eliminate the need for adding time code numbers in

your head! Second, to quit pushing the same buttons over and over again. And finally, to create routines and methods for the Flyer which had never been done before." The software succeeds in meeting these very lofty goals.

For this review we ran the .09 version of the Co-Pilot Video software (a 1.0 update will be available to all registered users by the time you read this) and a beta version of Co-Pilot Audio (.09) on an Amiga 4000/040 with the Flyer 4.1 software. Installation was a breeze and upon clicking the install icon the software updates and adds routines to the free OZ ARexx scripts already included with the Flyer. The software only takes up about 1 MB of hard drive space and optionally places a copy of the "hot key" Keyboard Macro commands into the Workbench Start-up drawer—something I highly recommend. That way your "hot keys" (one-key macros that perform a series of functions) are automatically turned on upon startup.



by Chris Fenwick

Cleared For Takeoff!

What I also really like are the tutorials in the short but sweet manual. They're written in a fun, real-life way that takes the reader through a scenario in which many different production problems are thrown at you. The writer of the tutorials, Aussie, obviously knows both the software and more importantly the business of video post production and editing. Quite refreshing for a change!

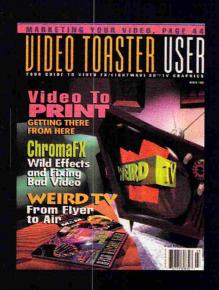
Space does not permit me to delve into all of the functions of Co-Pilot Video but let's look at a few of my favorite features.

- CG Render This converts Framestores and CG pages into Flyer Stills for faster loading and project sequencing.
- Disk Recorder This ARexx routine allows you to digitize to the hard drive while still having complete control over the Toaster switcher for fly-in keys and CG, special effects and source switching. You can also function with the T-bar in the half-way setting allowing you to compare sources.
- FX Scripts Allows you to globally change the settings of transitional effects. You also can add, remove, or adjust the lengths of fade effects in a project, and adjust the start times of clips locked to Program Time.
- Roll On /Roll -This allows you to pause and place clips into a "virtual" roll or pause mode till the next time they're needed in a sequence or session.

With Co-Pilot Video, Flyer users also can automatically set the duration of Flyer stills or switcher freeze frames to an exact length of time or make a series of Flyer Stills fit a piece of music—exactly. The switcher can be "Snapshot," which takes the output and directly creates a Flyer still with no problem. There's also no problem in creating a backup project for storing source graphics and clips to videotape. In addition you can lock audio and video clips to stay in perfect sync as well as search for clips by key words. There's even a routine to help find waste footage for deletion saving the Flyer user valuable hard drive space.

CoPilot continued on page 46

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the game to exist in. Welcome to the world of real-time 3D. The hardware may support a half million polys, but the overhead of the game programming, the demands on memory from sophisticated, dynamic texture mapping and other elements can quickly erode your lavish polygon budget. Fortunately, with a little ingenuity you can get a lot of mileage.

Creating models for real-time 3D initially looks easy because of the relative simplicity of the models. In reality, it can be fairly tricky. Building a reasonably good looking car using only 150 triangles is a bit like building a bridge that can support a grown man using only 150 toothpicks. First you plan the object, then build it point by point, and along the way you swear a lot. Once you've





taken the object as far as it can go with geometry alone, it's time to concentrate on your texture maps. A rich, detailed texture map can add interest and the illusion of detail to a simple object.

One way to give your simple object a more complex look is to actually build a complex version of your object. Model and texture it as lavishly as you want and then render it from the top, bottom, front, back, left side and right side (or from whatever views make sense for the



shape of your object). Then apply those rendered images as planar image maps to each of your object's sides. This is also a popular method to fake lighting effects like the glow a streetlight casts on the ground or glow from torches or lamps on a wall.

Texture mapping is one of the 3Dfx board's great strengths. We use all 24-bit images (TGA) that are dynamically sampled and applied in a process called Mipmapping. This maintains a clean, non-pixellated texture even when objects are very close up. The result is a game that has the speed and free range of movement of a Doomtype engine, the accuracy of physical effects you'd expect from a high end military simulator and the image quality of a full 24bit rendered animation. The hardware also supports realtime fog and alpha-blended transparencies without any slowdown of gameplay. Cleanly antialiased object edges also help give the game a smoothly rendered appearance. Of course, the best part of Power Circuit is network play. It's simply much more fun to race, bump and blast other cars when they happen to contain your

The Next Level

dear friends.

Multiplayer on-line games. For a lot of game developers and game players, this is the Holy Grail. Looking for a hot new game? Why drive to a store to buy a piece of software, then drive home and install it on your computer when you could simply dial up your local game provider and have instant access to any game available? Have a sudden urge to try out a new multiplayer driving game? Good luck getting six or seven of your buddies to instantly drop everything and race over to your home. Online, you'll have access to a world of live game opponents, 24 hours a day. A

number of on-line game services exist right now. Total Entertainment Network (TEN), DWANGO, Xband PC, Engage and Mplayer GameWay are a few of the services that currently support on-line multiplayer games in some form. Of course, these games aren't going to be brimming with gorgeous LightWave graphics moving at 30 frames per second-at least, not

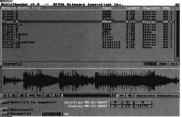
yet. But a lot of com-



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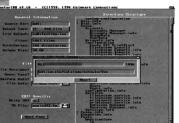
Asimware Innovations Inc. is proud to present Audio Thunder - the definitive audio format conversion utility.

As a result of the Flyer utilizing its own proprietary audio format, your audio samples are isolated and your options limited within this environment. Audio Thunder rolls through this barrier!

Audio Thunder provides a graphical user interface that can be launched either from Workbench or the Flyer. You will be able to effortlessly convert from one audio format to another. Simply select the source file, choose the desired format and convert. It's that easy! Choose multiple source files for a time saving batch process.

AUDIO CONVERSION

Master ISO



The MasterISO software allows a user to control a CD-R writer to create custom CD-ROM and CD-Audio compact discs.

CD-ROM discs are formatted in the universal ISO 9660 format, compatible with Amiga, IBM, Macintosh and virtually any other CD-ROM equipped platform.

CD-Audio discs are formatted to the Red Book standard and offer universal compatibility with standard audio CD players.

MasterISO currently supports Yamaha, Sony, Philips, Pinnacle, HP and Pioneer CD-R writers.

Each CD-R disc has a capacity of 650 MB; over 14 times greater than a standard 44MB SyQuest cartridge.

With CD-R media costs currently less than $1 \not\in IMB$, a CD-R writer is the solution to your Toaster and Flyer storage problems.

CD-R WRITING





The AsimCDFS CD-ROM control package, which consists of AsimCDFS, AsimTunes, CDTV and CD¹² emulation modules, FishMarket CD-ROM disc and Preferences editor, allows the user to access CD-ROM discs with an Amiga computer and a supported CD-ROM drive.

AsimTunes provides advanced playback control over standard audio compact discs. Librarian features, such as track/disc naming and disc identification are also provided. Direct reading of 16-bit audio samples from standard audio CDs is possible with AsimCDFS!

Full support for Kodak and Corel PhotoCD discs is integrated within AsimCDFS, including colour Workbench icons, transparent conversion to 24-bit IFF and support for resolutions up to 3072×2048 .

 $A sim CDFS \ is \ able \ to \ read \ ISO \ 9660, \ High Sierra, \ Rock \ Ridge \ and \ Macintosh \ formatted \ discs.$

CD-ROM READING

PhotoCD Manager



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PhotoCD Manager works with any Amiga equipped with a CD-ROM drive or a CD $^{\rm p}$.

PHOTOCD VIEWING

Texture Heaven 1 & 2

Texture Heaven 1 & 2 is a double CD-ROM compilation. Included within the package are 682 high quality colour images. Major image classes include woods, marbles and abstract designs. These images are stored as 24-bit colour files and include full colout thumbnail previews. Compatible with multiple platforms.





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FOR INFORMATION CIRCLE 126

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Microsoft are laying the foundation for what they hope will be a big, profitable on-line world full of 3D shopping malls, entertainment centers and other fine virtual establishments you'll want to visit in your flaming robotic insect, winged cat, or whatever other 3D avatar you choose to represent yourself. This might be a good time to start polishing your modeling skills.

Westwood

The artists at Westwood Studios in Las Vegas have obviously been polishing their modeling skills. Currently working on the game Bladerunner, as well as Lands of Lore: Guardians of Destiny and Red Alert, a sequel to Command and Conquer, Westwood's breathtaking graphics are familiar to LightWavers. A number of Lands of Lore images, in fact, grace the covers of the new LightWave 5.0 manuals. We would love to see what Westwood artist Eric Gooch's avatar would look like, but we settled for e-mail.



VTU: Lands of Lore consisted of beautifully rendered images and sequences. Are you involved in any real-time 3D game development? If so, for what platforms?

Eric: Actually, Lands of Lore and Bladerunner are "hybrids" of real-time 3D games combined with a lot of tricks using video and 3D rendered sequences. I can't say too much about Bladerunner at this point, but the game engine our programmers have developed is very cool.

VTU: On the subject of beautiful images, which paint programs do you/your company use to create images for textures and backgrounds? What other software packages are used heavily at Westwood?

Eric: We probably Photoshop more than anyelse. Occasionally we'll still use that old veteran DPaint, and I think some of the artists use Fractal Design Painter. Some also use Animator Pro. For our video screen green removal we use Ultimatte Cinefusion on the SGI, and our com-SGI's

positing work is done Wavefront Composer and Flint.

VTU: What do you feel are the advantages of using LightWave for creating game graphics as opposed to other 3D software packages? What other 3D software do you use? What are their advantages?

packages I've worked with (and I've worked with a lot) LightWave has the best combination of ease of use and high quality imagery. Others I've worked with either had painfully contorted interfaces, lousy modeling tools, or crappy lighting quality. LightWave keeps getting better and better, and 5.0 is a joy to

work with. We're a mixed house when it comes to 3D packages, and we also have artists that started out on 3D Studio, and are using it and 3DS Max. Some artists use both LightWave and MAX. Although we have spent time with (and even purchased) some of the high-end SGI 3D packages, we don't really use them. Each one can do some incredible things, but they also have incredible holes and drawbacks that kept us from using them on a regular



"Although we have spent time with (and even purchased) some of the highend SGI 3D packages, we don't really use them. Each one can do some incredible things, but they Eric: Of all the 3D also have incredible holes and drawbacks that kept us from using them on a regular project basis. We iust couldn't iustify

the expense."

project basis. We just couldn't justify the cost.

VTU: What are some of the special challenges/concerns you face as an artist working game development?

Eric: The biggest challenge comes when you see your work reduced to a 256 color palette at 320x200. (Doh! Well, that image used to look good!) Sometimes they have to be reduced to really strict palettes and very small sizes, so you need to learn what "holds up" well during the image-creation process. On the

other hand, technology is improving so quickly that this is becoming much less of a concern. Hopefully, someday game artists will look back and laugh at the thought of palettes and everything will be 24-bit. We're actually very close in some areas.

VTU: Describe some of the interesting/ innovative ways Westwood is using LightWave.

Eric: One of my favorite techniques is combining live video with 3D rendered backgrounds, and doing it so well that the viewers don't know it was ever done. That's really the ultimate success of special effects—when it's so seamless you don't know it's happening. So much of the time when this is attempted it stands out like a sore thumb. Doing it well is a real art.

VTU: Which computer platforms are you working on?

Eric: We do the majority of our work on PC's. We have a rendering farm of 12 Digital Equipment Corp. Alphas for LightWave and about 40 Pentiums for 3D Studio. We have three SGI's for our green removal and compositing, and use Mac's mainly for PR work and cross platform development.

"It's a really great atmosphere to work in. You're basically a bunch of kids that never quite grew up, complete with Nerf cannons, toy collections and arguments about whether Cocoa Puffs are better than Cap'n Crunch."

VTU: What advice would you give aspiring LightWave artists who are interested in finding work in game development? What kind of background/skills/qualities do you look for when hiring new artists?

Eric: The best artists we have all started out in a different artistic field. Most were sketch artists or painters. My background was photography and lighting, as well as airbrush illustration. Understanding lighting and composi-

tion is frequently what separates the average from the excellent animator. Your demo reel is critical. Don't worry if your resume doesn't sound impressive, your reel is all most people will be interested in. Also, target your audience. If you're sending a reel to a game company, don't send flying logos. Look at the work that the company has put out and do something that's stylistically similar, but different enough to show your own capabilities.



VTU: What do you feel are the critical elements that make a game great? What do you think makes a game really stand apart/stand out from the competition?

Eric: I think one of the most important elements to a successful game is the "immersion" factor. Becoming completely absorbed and caught up in the story and the action, and feeling like you're an important part of it all. Everyone likes great game graphics, but by themselves, it's just a glorified slide show. The best games have a balance of great gameplay, great graphics, and a great soundtrack. That's frequently a difficult balance to strike. When it's done well, you've got a winner.

VTU: Tell us what you like about working in game development.

Eric: It's a really great atmosphere to work in. You're basically a bunch of kids that never quite grew up, complete with Nerf cannons, toy collections, and arguments about whether Cocoa Puffs are better than Cap'n Crunch. Here in Las Vegas, as I prepare to go to work every morning

armed with my backpack, lunchbag and standard issue shorts and T-shirt with obligatory rude comment. My wife insists I look like I'm off to Summer camp. It's also a very creative environment, which helps drive all involved to create even better stuff for the next project.

VTU: Anything else you'd like to say?

Eric: Many thanks to NewTek, Allen,

Stuart, Fori, Arnie, Ernie and everyone on the LightWave development team for making such a cool program!

Enter Your Initials

In many ways, making a game is like creating an entire world. You build a place and determine how it will look. You create characters for and determine how

they will act. Finally, you sit back and watch what happens. After all, a game isn't really a game until people are playing it. When the music starts and the player slips into the world of the game, you finally discover how close you came to creating a perfect world. This is when some important questions get answered. Did I make the right choices? Did my software act as a quick and powerful laser, or a bulky and unmanueverable battle ax? Were the tools intuitive or baffling? Did they help me find innovative new solutions or did they leave me stranded in hostile territory? In the fun, but often messy paintball battlefield of game development, LightWave is a straight line. It is the shortest distance between two critical points; what you see in your mind and what you see when your work is finished.

Joe Clasen and Susan Isbida run Joe's Desktop Bar & Grill. E-mail them at: surfrjoe@deltanet.com or Susan3Diva@aol.com

EDITORIAL EVALUATION

Circle 048

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Create Your World

World Construction Set V2

by Doug Johnson

Q

uestar Productions has finally released its eagerly awaited World Construction Set V2. In case you've been under a rock for the last couple of years, you know World Construction Set is one of the most powerful terrain modeling and animation packages available.



Terraforming

World Construction set uses 3D geographic information, primarily DEM (digital elevation maps) created by the U.S. Geological Survey. These files come in several flavors depending on the complexity you need. For instance, if you're animating all of California you probably don't need DEMs accurate to one meter.

World Construction Set is a single program made up of five modules that allow you to work in multiple windows (modules) at the same time. In fact you typically work with three or four modules at one time.

The learning curve is a bit steep for World Construction Set, but the nearly 700-page manual is full of very clear easy to use information, and good tutorials to get you started. The manual includes an exhaustive index and glossary. I was always able to find an answer to my questions in just a few minutes.

If you've used World Construction Set, you probably know much of the above information. What you may not know is this release offers a number of enhancements.

New Stuff

I've been using a very early beta version of the software, so instead of writing about the usability of the new version I'm going to describe the feature enhancements in World Construction Set V2. Because World Construction Set V1 was so powerful you won't notice much of a difference. This allows for backward compatibility but it also means you need to learn the new features to see the difference. Once you begin to look into the new features you will be amazed. Some (but not nearly all) of the enhancements are:

Clouds— Not just clouds but clouds that you have control over. You can choose from Cirrus, Stratus, Nimbus and Cumulus. You can then specify cloud boundaries in latitude and longitude, cloud altitude, fractal dimension, cloud density and whether clouds evolve over time. Also, your clouds can generate shadows on the ground as they move.

Waves, Breakers and Beaches—You can control and animate all kinds of waves. Breakers will hit the shore automatically based on the depth of the water at the shore. Beaches will also be created automatically based on the slope of the land into the water. You can even see tidal currents.

Reflections— Reflections are accurately distorted by waves.

Scaled Image Trees—High quality trees you can get close to. In V1 the trees looked great from a distance but looked pretty Fractal close-up. The new trees allow close-up rendering, and you can modify them or even create new ones.

Stumps and Snags—Add them to your forest for a true to life effect.

Strata Texture, Slope and Deformation— Use this for added realism for strata deformation (folding) control.

Fractal Displacement Rendering- This effect adds realism in terrain rendering.

Celestial Objects— World Construction Set now includes the sun and moon with the ability to place any image in the sky. Great for a dramatic sunset or full moon.

DEM Builder and Fractal Terrain Generator— These effects give you the ability to generate your own landscapes within World Construction Set.





Master Color Maps— This function allows you to place a single color map across several DEMs, or you can use it to specify exact placement of unique ecosystems.

New Map Capabilities— You can use the map view to see and place clouds and waves, build new land-scapes and measure distances.

Settings Editor Memory and Speed Indicators— If only LightWave 3D had these! As you change parameters World Construction Set lets you receive instant predictions to help you choose the best quality for the rendering time and memory available.

VistaPro Import Changes— World Construction Set can now import the new big VistaPro files.

Here are some changes to the interface and program itself. The changes are not quite so high on the cool factor, but they're no less important to the organization of your projects.

New Project Command— Quickly create a new project or a clone of another one. This was my biggest complaint about V1.

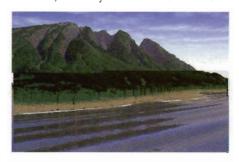
Options Buttons— These make it easier to change rendering settings without having to dig through a half dozen screens and menus.

New Data Support— World Construction Set now has added support for the 30-meter USGS DEMs and the DTED format.

Better Rendering Quality— Tree placement is less regular and more natural. Rocks have also been improved in several ways.

Enhanced Support for LightWave— Scene export and Object export make it far easier to make World Construction Set and LightWave play nice together.

LightWave 5.0 allows direct Z-buffer access through the plug-in controls, and Questar is currently working on a plug-in to access it. World Construction Set has a plug-in for exporting Z-buffer information from LightWave to World Construction set for use with LightWave 4.0 (which doesn't support direct Z-buffer access). The Z-buffer is the data which keeps track of how far each pixel is from the camera, so if you want to create a





composite where an object passes in front of some objects but behind others, the Z-buffer determines where each object is.

Some of the most impressive changes in World Construction Set are the ability to scale image texture, allowing you to generate realistic looking trees up close. The cool thing about this is, that you decide which trees are high quality. If your

viewpoint is flying 1,000 feet above a forest, you don't need to see that much quality. It just eats up memory and increases rendering time. You can have far lower quality trees for most of the forest, then increase the quality as you get closer and closer.

Render Settings Editor contains some changes as well. You now have the ability to render using Fractal Displacement maps for increased realism. You get three options for Fractal Depth: Constant (the way V1 worked) is a global setting for the entire animation. Variable is good for still images. World Construction Set automatically changes the Fractal displacement for polygons farther from the camera. Finally, Fractal Depth Maps, generates maps along the entire motion path of an animation.

Some of these new features might scare some people who familiar aren't with World Construction Set. Don't let it. After working through one or two tutorials, you'll begin to see how cool World Construction Set is, especially when used in combination with LightWave. This is one of the most powerful modeling and animating packages available. However, all this power isn't cheap. Both the Intel and Alpha versions of World Construction Set will be selling for \$835. Upgrades from the Amiga V1 and site licenses are available.

World Construction Set V2 is available for the Amiga, Intel and DEC Alpha platforms. I was running World Construction Set on my A4000 40Mhz '040 with 24 MBs RAM, and my HP XU 6/200 200Mhz Pentium Pro with 64 MBs RAM. It loaded and ran fine with both of these. Questar recommends a minimum of 32 MBs RAM if you're running Windows NT.

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EDITORIAL EVALUATION

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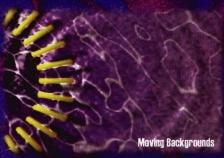
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The Need For Speed

TekMagic's '060 Accelerator

by Michael A. McBride

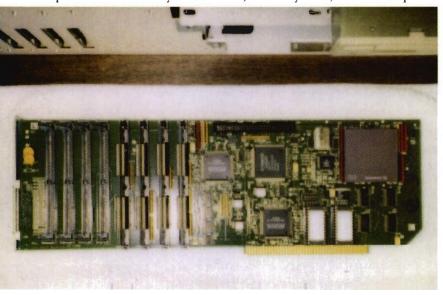
"That's one of the beau-

o, I said to myself, "Mike, your LightWave 3D scenes are getting too dang complex! It's taking too long to render these puppies!" So, I asked myself, "What are my choices?" Well, it turned out I only had two hardware choices for speeding up LightWave rendering time. I could upgrade to a PC (which is no

upgrade at all, as far as I'm concerned. I like my Amiga—a lot!), or I could try out one of those new '060 boards I'd been reading about. I did a little research and decided that the TekMagic '060 accelerator was the way to go. And am I ever glad that I did!

Tek Magicians

First, some background on TekMagic. Not too long ago Great Valley Products (GVP) went belly up. It was a day of mourning because it created a void in the Amiga's foundation at a time when third party product development and support was eroding rapidly. After that, for some, upgrading to Pentium based PC's, or Alphas must have looked pretty tempting. Many caved and jumped platforms. But many of us didn't, or in my case, couldn't.



We thought we'd seen the last great Amiga developer crumble into dust, but there was still life in those coals, and, after a time a small spark. Then a breeze blew carrying word that the Amiga wasn't dead yet and started a fire in the belly of several former employees of GVP. These brilliant minds got together and decided that free

from the hindrance of GVP's defunct management, they could develop a better board. Thus rose the Phoenix from the ashes, and its name was TekMagic!

Where GVP once reigned, several companies have begun to produce accelerator boards for the Amiga line. See "Accelerators: How Fast is Fast?" by Wayne Cole in

VTU April 1996. Wayne did a terrific job of explaining the technical aspect of each of the accelerator boards he reviewed, including the TekMagic '060/50 Mhz board, and I won't second guess him. Even as a non-technician, I had no difficulty installing this board.

The installation is quite straight forward. If you've installed a previous GVP accelera-

> tor, or the Video Toaster you shouldn't expeblems. If you do, call Micro-PACE for technical assistance, and get this, you won't get a single voice mail message! From the moment that they pick up the phone, you'll be greeted with a warm and caring voice.

For the most

ties of this board. You can continue to use the GVP RAM you had on a previous board! With RAM prices so low, you might rience any pro- say, 'I want more.' (I did.) ...Not only can you use both types, but you can also mix and match Standard with GVP RAM

on the same board!"

part, the jumpers can be left at their factory defaults. You'll have to tell the board whether you are using industry standard 72 pin simms, whether they are double or single sided, or that you are using GVP simms. That's one of the beauties of this board. You can continue to use the GVP RAM you had on a previous board! With RAM prices so low you might say, "I want more!" (I did.)



Be sure to clear all cables before installation.

Well guess what? Not only can you use both types, but you can also mix and match Standard with GVP RAM on the same board! There are a couple of restrictions, but nothing of consequence. This provides flexibility when it comes to upgrading.

It's also necessary to upgrade your Amiga's O/S to Workbench to the 3.x version. The TekMagic board requires 3.0 ROM to function. This little bit of information isn't always present in Micro-PACE's advertising of the TekMagic board (of which there has been very little, if any), and my dealer wasn't expecting to have to upgrade O/S, so he was never informed by Micro-PACE. I didn't even discover it until I'd installed the board, and couldn't get it to work. I read through the documentation carefully, and there it was in black and white. I suppose it's easier to sell an accelerator than both an accelerator plus a Workbench upgrade, so I can't blame Micro-

PACE. But it would've been nice to know going in. I was looking for an excuse to upgrade my Workbench anyway.

Be sure to set your jumpers properly. I juxtaposed two by accident and it caused some problems. Jumper J-6 is used to turn active SCSI termination on and off. Its factory setting is open (off), which is proper if you only have an internal hard drive connected

to the board and no external drives. I have a SvOuest EZ-135 external drive connected, and therefore should have closed (on) the jumper, which disables the active termination and uses the drive's termination instead. The other jumper I set incorrectly was IR-6 (notice the similarity in the nomenclature?), which is used to inform the TekMagic board which type of RAM simms you are installing-single or double-sided. I misread the documentation and reversed these two, mistakenly telling the board that I had no external SCSI devices and that singlesided RAM was installed, when actually the reverse was true for both. The result was a board that showed less RAM than was actually present, and a bigillion hard drive errors.

The board installs into the A2000's processor slot closest to the drive assembly.

(Definition: Bigillion-One heck of a lot!) Here's a piece of advice: Check your jumper setting prior to installing the board.

Once I straightened that out, the board booted just fine. I did encounter an inordiof nate number Checksum errors. I discovered after much agony that it was due to the fact my old MediaVision 1x CD

ROM reader, in line with the EZ-135, does not support Active Termination. Once I removed it from the SCSI chain, the Checksum Errors disappeared.

I can now happily report that my TekMagic board operates flawlessly, and has sped up my rendering as well as all other machine functions. considerably. As a reference, I've include the results of benchmark tests that I performed on both my newly accelerated A2000 and another A2000 inside of which I installed my former accelerator (GVP '040/40 Mhz). Judge for yourself. Here are the results of the '060 v. '040 benchmark tests:

Board Render Times

(LightWave

Textured Cubes.scn default setting) '060/50 Mhz/32 MB (Tekmagic) LightWave 3.5 -42s* LightWave 4.0 -51s '040/40 Mhz/16 MB (GVP) 3.5 - 1m 17s* 4.0 - N/A

(LightWave 4.0 Benchmarks/ Textures.lwsdefault setting) '060/50 Mhz/32 MB (Tekmagic) LightWave 3.5 -3m 18s** LightWave 4.0 -6m 58s**

'040/40 Mhz/16 MB (GVP)

3.5 - N/A 4.0 - N/A

Note: LightWave 4.0's textured cubes scene (Benchmarks/ Textures.lws) would not load into LightWave 3.5 without removing textures Crumpled and Vein. So, for accuracy, I removed them for the 4.0 test as well. The most significant results are:

1) The LightWave 3.5 Textured Cube scene rendered in LightWave 3.5 on both the '040 and '060. Here you can see a 54.5 percent decrease in rendering time on the '060. That's a 1.8 times increase in rendering speed. That doesn't seem like a lot until you multiply it over the course of an entire render. Say you have a scene that took 3 days to render on the '040/40 Mhz GVP. On the TekMagic '060/50 Mhz the same seen would

The board is fully installed with cabling back in place.

render in 1.6 days. That's significant!

2) The LightWave 4.0 Benchmarks Cube scene rendered in both LightWave 3.5 & LightWave 4.0, on the Tekmagic '060/50 Mhz accelerator. As you can see, 4.0's rendering time has increased by 47 percent

when compared to the exact same scene rendered in LightWave 3.5.

This just shows that LightWave 4.0 has a significantly slower rendering engine. In order to use the new functions, sometimes it's worth it, sometimes not. Bear in mind that mathematics was never my strong suit. It's possible that my calculations of time and percent increase-/decreases is off, but I don't think so.

These comparisons won't matter much to those who have switched to a Pentium processor, or (drool) an Alpha, but for those of us who, for whatever reason, have stuck with Amiga, a faster accelerator like the TekMagic '060/50 Mhz is a welcome alternative. If your aim is to speed up your existing A2000 you can't go wrong with the TekMagic board. It's stable, the distributor (Micro-PACE) is a joy to work with, and most importantly, it's *fast!*

Michael McBride heads Caldor Corp.'s video/graphic department and owns CyberGrafx.3D, a modeling/animation company in Connecticut. He can be reached at 76601.2354@Compuserve.com. Micro-PACE can be reached at (800)362-9653. GVP-M can be reached at (215) 633-7711.

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CoPilot continued from page 32

Co-Pilot Video allows you a number of ways of selecting Flyer clips and stills to perform functions, including highlighted clips, highlighted range, from here to stop icon and/or select the whole project.

Each of the Co-Pilot series also



Co-Pilot Audio provides fast and sophisticated tools for mixing audio sources.

includes these special OZ features:

- OZ Keys-a set of easy to remember hot-key macros giving you the fastest way to adjust audio levels, pans, find the visual where your music ends, switch screen views, insert fades, insert or remove stop icons and end-marks, insert and jump between scene markers and more.
- OZ Icons—A bunch of helpful routines for dealing with missing footage during the early stages of the video editing process. Just click and

it seeks and finds. Also included is an expanded OZ ARexx set of video and audio utilities.

The next addition to the Co-Pilot series from OZware, Co-Pilot Audio, should be shipping by the time you read this. Recently we were laying in some audio effects on a project, sim-



Co-Pilot Video allows for precise control of video sources and switching tasks.

ple stuff, a fade here or music swell there. Anyway, after adding a short music bit the whole project went crazy and wouldn't play back properly. We loaded Co-Pilot and loaded the project display area and used the "Report Mode." The "Timetracks" display window (an intuitive proprietary menu system included with all Co-Pilot products) shows a graphic and timeline representation of the project showing five tracks: OZ, video, FX, audio and BAD. There it was! Right there in the "Bad" track was an indi-

cation of the problem. When we zoomed in on the timeline representation of the project it was obvious where the problem was. Our new audio effect although very short was trailing off in silence and therefore we did not realize that it was overlapping the *next* audio effect. Since there was already a music bed this created a passage in which too many audio tracks were trying to play at the same time. This was causing the problem and we fixed it quickly and easily.

The synergistic, high-speed tools in OZware's Co-Pilot Video allow video editors to quickly get work done and soar to new creative heights with your Toaster Flyer NLE. Additional future products from OZware are planned and if these tools are any indication, strap in—you're in for the ride of your life!

Chris Fenwick owns Broadcast Business Graphics. Reach him at http://www.bbgroup.com.

EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Circle 048 Useful Circle 049 Not Useful Circle 050 the program is out there.

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Toaster CG Live!

Changes in Switcher Logic

by Bob Anderson

veryone knows that Toaster version 4.1 allows video producers to sequence Toaster events. You can build a set of graphics and use effects to transition from one to the next to create an animated look. Many people, however, are concerned with how the CG and Switcher can be used together in a live situation.

The Video Toaster 4.1 Switcher

Much of the logic of how the Switcher works has changed. When you are in the Project/Files view, the Toaster behaves totally differently from the way you may be used to working. Many processes are appropriate for post-production work, but unacceptable for live presentations or live broadcast applications. In Project/Switcher view, many things have changed as well. But with a little experimenting, I think you'll Figure 1: see that the Switcher and CG can be used to great advantage in live situations.

The metaphor of a "project" seems to work best when you consider the Video Toaster Flyer. The project is the collection of event icons you drag into the top half of the screen. Once you have placed these in order, you can hit the play button and each of the events will play back in order. This isn't quite so clear when it comes to live work with Toaster 4.1, which uses the same interfaces.

In Toaster 4.1, you have the ability to enter the Project/Files view and select the effects, titles, graphics, and other special croutons you think you are going to be using in your production. This allows you to place them in the order you think you will need them, so when the time comes to bring up a certain graphic, you won't have to go hunting for it. Everything is right at your finger tips, so that when the inevitable last minute changes come, you can easily rearrange the icons. The effect icons look the way you are used to seeing them, but now Framestores are represented with small "thumbnail" images. CG pages are now also visually represented. This makes finding the right image much easier than searching by name or number.

While still in the Project/Files view, you'll find the behavior of the Switcher is strange. If you double click a Framestore, it loads and displays immediately. It's impossible to load the image into the preview bus for an effect before putting it in the program bus. Double-clicking a CG Key loads the page and fades it up over the current output, once again, making it difficult to make the graphic appear at exactly the right moment. These seem like big problems, but they are solved when you go to the Project/Switcher View.



Going Live

Once you have built your collection of Toaster elements, go to the Project/Switcher view. When you single-click a Framestore, it loads into the preview bus where you can do an effect to bring it on. If you double-click it, it is loaded and displayed on the program bus. The same holds for effects. If you single-click an effect, it loads, and waits for you to hit the space bar (or a G.P.I. pulse) before beginning. Double-clicking an effect makes it load and perform. In the NewTek/effects/control directory, there are a group of icons that allow you to go to live camera input. They behave the same way. Background colors are the same as well.

This starts to get a bit more interesting when you add in the Luma Keyer bus and use it with CG pages to create some pretty interesting effects. The Luma Keyer is designed to allow you to cut away (make transparent) portions of an image, based on the image's luminance values. This means that if we create a CG page over black, we can make the black part invisible. This is often used to place text over video of someone speaking.

Now, you might be asking yourself, "Isn't that exactly what a key page is?" and the answer is-yes. But if you use the luminance keyer to place the text over the video, you then have the option of using effects to bring the text on and off. Many who have attended training classes have seen this done, but it is a bit different with Toaster version 4.1. (Note: Some of you have called NewTek's technical support about a "bug" in the 4.1 software involving bad keying with the luma keyer. Sometimes when you use an effect to fly a page on or off, you'll see garbage on the screen, way out in the overscan area. This is most apparent when the effect squeezes the keyed image down small. This isn't really a bug. It happens only when you create the CG text as a Key type page. Remember, what we are looking for here is text over a black



Figure 2:

background. When you see the icons for a key page, the text is over a black background, but it is created differently than the way a Framestore CG page is created. This is what causes the garbage to appear on the screen. The proper way to create the image is as a CG Framestore page, or in ToasterPaint, as text over black.

Once you have a few of these pages created, let's take a look at how you can superimpose them over another image, or a live video source. Point your camera at something cool, roll tape or load up a framestore, then set the Switcher so this is on the program out. Next, load the text image by single clicking it. Now look at the Switcher. Whatever you are looking at on the program bus will be selected on the Main Out row of buttons. One of the "DV"s will be selected on the preview bus. Click the same DV on the Superimpose bus in the lower right corner of the screen. When you do this, you may, or may not see the right thing on the screen.

On the Superimpose control panel, you'll see two small buttons, next to the one marked off, that are black, or white. This chooses whether you are keying out black or white from the superimposed image. (In our example, we have created the text over a black background. There are times when you might want to create it over a white background, such as creating black or very dark colored text superimposed. The process will be the same, just that you'll select the option

to key out white instead.) Next to these buttons, you'll see a small numeric requester. This adjusts the Clip Level. The Clip Level is the dividing line between what will be visible, and what will be invisible. Adjusting the level lower makes darker parts of the image visible. Adjusting it higher causes lighter portions of the image to be cut. If you have created light-colored text on the black background, you should find that there is a wide range of numbers that provide acceptable results.

OK. Now you know how to key the graphic, but how do you use this during a production? Well there are several uses. Let's start off by discussing some different ways to load CGs into the switcher. As I described before, if you single click on a graphic, it is loaded into the preview bus. Many people miss having the ability to enter a numeric value for each of the graphics. Well, you still can. While you are looking at the project screen, you can numerically call up each of the icons, using the numeric keypad. You enter a two digit number, the first being the row number, (1 through 4) and the second being the column number (1 through 8).

When you enter the two digit number, the icon will be highlighted, but not clicked. You can tell this because the icon will be bracketed in a yellow highlight, but not totally encircled. If you then hit the <enter> key, (Important: Not the return key!) the highlight becomes complete and you will see that whatever it was you just highlighted gets selected on the preview bus. Using the space bar now, will transition to the new graphic. You can also use the arrow keys (between the letter and number portions of the keyboard) to move the brackets up, down, left or right.

When projects become larger than four rows, numeric entry will allow you to choose icons that aren't visible on the screen. As soon as you hit 5, the Project screen pops to show row 5. Then if you hit 3, this is interpreted as column 3, so the icon in position 53 becomes highlighted. As you enter higher numbers, the screen automatically pops to show the selected icon. If the next icon is visible from the current view, the screen doesn't pop. If you are using the arrow keys, you can cause the screen to move to show different rows, by continuing to click up

or down once you are at the edge of the screen.

ToasterCG pages are designed by default to work with the Video Toaster's Alpha Channel Keyer. This allows text to be superimposed onto the background video with transparency. The text can be transparent, shadows or both. When you use the Toaster's luma keyer, you loose the ability to have the text be transparent, and the key doesn't look quite as clean. The advantage of the luma keyer is that you can use it with effects.

To bring up regular CG Key pages, single click them, or enter their numeric value, and hit "Enter". This loads the image into the preview bus. Hit the space bar now and the key page will fade on and stay there until you hit the space bar again. If you double click a key page, it loads, and is then displayed. You then use the space bar to fade it back out.

Transitioning Between Keys

There is a great effect that can be achieved using the Toaster's Luma keyer and CG text pages If any of you remember NewTek's Revolution video tape, there was an effect where a set of sports scores flies onto the screen over video of a baseball game. The text then flips over to reveal a second set of scores then flies out. This effect can be done easily, but it requires a bit of preplanning. The nice thing is, once you can do this effect with two pages, it's not that much harder to do with three, four, or even 100 pages.

To perform this effect, you must be able to tell the difference between digital effects that fly the new source on, (called an "on" effect) and those that fly the current main source out, revealing the preview source (called an "off" effect.) You can tell which is which by looking at the effect icon or by single clicking the effect in the files window. This puts the name of the effect in the upper left corner of the Flyer screen. Digital effects will usually have the words Out, Off, In, or On in their names. This will help you determine what the effect does.

Only a few of the specialized effects are required to perform the actual flip. These are digital effects that use the matte colors in them. (Flip H Matte, Flip V Matte, etc.) You can tell these

Toaster CG Live continued on page 69

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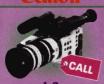
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Top Quality-Bottom Price Getting Your Animations to Tape

by Douglas J. Nakakihara

reating a professional quality animation FRED is pretty easy with LightWave 3D, but getting it to video tape or another medium can sometimes prove to be a bigger task than creating the animation itself. Video-savvy animators can single-frame 3D animations to tape decks or laserdiscs using a SFA controller. Others can use nonlinear digital video boards, such as the PAR, Video Toaster Flyer and VLab Motion. But what about animators who can't justify spending several thousand dollars for something they don't really do that often? Read on for some answers and ideas!

Farm It Out?

It may seem obvious, but many animators don't consider using an outside service. But think about this: How do you develop your photographs? Do you go out and buy darkroom equipment? No. You example shot of the interface. probably spend a large chunk of change on some really cool camera equipment and develop your pictures at Target. The same principle holds true for getting your animations to tape.

All you need to do is get your rendered frames to a service bureau so they can record them to tape. There are several companies advertising such services in the back pages of Video Toaster User. Plus, these places should be Amiga-lit-

"Do not rely on anyone favor to you ... Work with a real business , where you can demand service

erate, something you should not take for granted. The only obstacle will be what medium to use to transfer Who will do this as a the data. Considering the amount involved, you'll obviously need to use tape or high-capacity removable media. Check with the particular service bureau you choose and see what they recommend.

One word of caution: If you are working on a payas a paying client." ing job, do not rely on anyone who will do this as a favor to you. Sure, they may

have all of the equipment and it may, indeed, be idle. However, when push comes to shove and a paying gig comes up at the very time you need your stuff done, guess which job gets priority. Work with a real business, where you can demand service as a paying client.

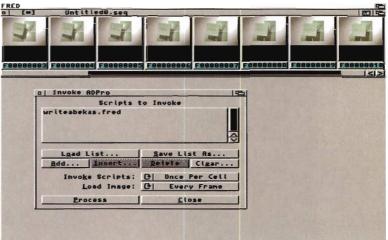


Figure 1: Use ADPro's FRED utility to batch-write your animations to Exabyte tape. This is an

It may make even more sense to have the service bureau render the LightWave animation, as well as dumping it to tape for you. With this method, you may be able to mail the scene file on a floppy disk or send it electronically. This frees up your machines to use on other projects and saves you from investing in expensive peripherals that are soon obsolete. Moreover, factoring in transit time, you'll probably get the finished product faster than if you did it yourself, since the service bureau will likely have more horsepower and render the scene faster.

Of course, you will have to pay a service fee, but you should be able to pass this on to the client. You may want to utilize this method initially anyway to evaluate different companies, before you invest in any new equipment to transport your frames.

Testing 1, 2, 3

If you are going to utilize an outside service, make sure your animation is perfect before you send it. If you have a Toaster 4000 in an Amiga 4000, use the Toaster's Preview Animation feature. This is a tremendous tool for creating test animations for clients.

If your animation exceeds the playback capability of a full-screen Preview Animation, use one of the lower resolutions. If the animation is lengthy, you can also use this technique to extend your playback length capacity, or break it up into pieces and record them individually. If you don't have a "4000 set-up", use an Amiga ANIM instead. HAM mode can still look pretty good.



Figure 2: The LightWave 3D camera panel.

Don't Give Away the Store

Actually, one of the problems with Toaster Preview Animations is that they look too good. You want to strive to knock your client's socks off when they see the finished product. At the very minimum, don't use antialiasing and record on a consumer-grade VCR. You can combine the Preview Animation with some nice clean antialiased Framestores to give the client a pretty good idea of what the final product will look like. If you want, you could IPEG the Framestores and carry them on an IBM-formatted floppy disk, which should be displayable on most PCs these days.

Now, if you want the absolute top quality at the *lowest* possible price, you need to invest in an 8mm Exabyte drive (like an 8505). At around \$2,000, these drives are a bit pricey; however, this is the industry standard for transporting digital video. You'll also need a SCSI controller, Art Department Pro (ADPro) and the Abekas loader and saver. (Note: ImageFX supports the Abekas image format, but cannot *control* an Exabyte tape drive.) One side benefit that may help justify the purchase: The Exabyte can also be used to backup your hard drives.

If you are wondering where you can get the Abekas software, Safe Harbor will probably be the U. S. distributor. MacroSystem Computer GmbH, the German company behind Draco, VLab Motion and Retina, licensed all of the ADPro software. The basic ADPro, along will everything that used to be optional, will be sold as one CD-ROM product.

When you render, you must use the "D1 (NTSC)" aspect ratio in LightWave which yields a resolution of 720 x 486. Once all of the frames are rendered, use ADPro's FRED utility to batch-write them to the Exabyte tape. It's a good idea to begin a tape with ten or more frames of a standard color-bar image.

This will help the transfer operator to calibrate his machines and ensure colors look correct.

Double-Check

To double-check the integrity of frames written to tape, the ADPro Abekas loader/saver comes with an ARexx script that reads the frames from the tape and creates an ANIM file that you can playback on your Amiga. Taking this extra step should avoid the horrible situation of booking time at a post house and showing up with a bad tape or frames. You can also check the animation before you write to tape using FRED's stamp feature.

For my own projects, I've used a script I wrote that renders my LightWave scene, saves the frames to an Exabyte tape, and then re-reads the frames from the tape to create a VLab Motion video clip. Of course, there will be occasions when you just won't have the time to do this, but you should, at the very least, check a couple random frames on the tape.

about 10-15 frames for each still. The Abekas operator can then manually hold the still as long as you want as he is recording to your format of choice.

The Exabyte can also come in handy if you need to composite something over live video. Simply ask the client to provide the background video on Exabyte tape. Then you can transfer these frames to your hard drive and use them in LightWave as background images. Again, remember to stay in the D1 aspect ratio. When you transfer the finished frames back to Exabyte tape and eventually to video tape, your work can be cut right into the original video and you shouldn't have to worry about scaling distortion or coloring problems.

All in all, having a digital video play-back device is great, but not *absolutely* necessary, even if you need to produce professional broadcast-quality output. Video Toaster Preview Animations, Framestores, and even Amiga ANIMs can provide adequate tests and an Exabyte drive is the doorway to professional-quality tape formats.



Figure 3: A frame from a transferred animation.

At this point, you can take the tape down to a post-production house and transfer the frames to an Abekas machine. Once transferred, the Abekas can play back the animation and it can be recorded to virtually any format you want. This is absolutely the best output possible. Since it takes a couple seconds to transfer each frame to the Abekas, you can save some time (and money) if you have stills. Just record

Douglas J. Nakakihara is a CPA and a freelance writer for several high-tech publications. He also runs his own animation company, Electrical Language, in Simi Valley, Calif. Reach him at djn@ix.netcom.com.

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Back To Basics

Picking Up the Tab With the Flyer

by Steve Easley

ecently, a friend of mine excitedly asked me if I had ever used the "New Folder" button in the Sequencer screen of the Video Toaster Flyer. He had just learned about it and could see the benefits of such a simple item. Although I had, I realized that many Flyer users have not found this or some of the other organizing tools included with the Flyer. Most articles and tutorials only help with the more difficult tasks and skip the standard features included with the software. When you bought the Flyer, you probably had to "re-learn" how to edit non-linearly, so you didn't have time to learn some of these other basic features. Hopefully, I

New Folder

can show you a few.

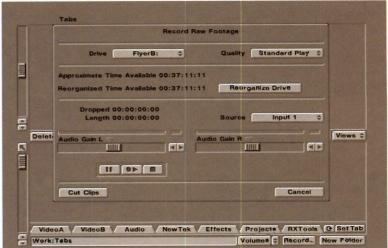
about is in the bottom right-hand corner of the reorganized time available. Sequencer screen. It lets you create a folder on any hard drive to organize files. One use for this is for temporary storage while reformatting one of your Flyer drives. Let's say your Flyer A drive needs reformatting, but you have a lot of video data on it that you would really like to keep. The easiest way to keep the clips is to copy Flyer A's data to Flyer B if there is enough room. However, if you just copy the data over, you will get all of your video clips mixed together with-

if you are working on project may be looking for the same time."

out knowing which belong "The Folder button is on Flyer A and which on Flyer B. Trying to sift through and replace the coralso a great tool to rect clips onto the correct drive later can be a pain. Also, if you had previously organize your drives created projects that use some of these clips, you could have problems. The clips that used to be on Flyer A, but now are on Flyer B. **several projects at** The result is a project with missing croutons that need to be replaced.

> With the New Folder button, keeping your files separated is easy. First, go to the

Files/Files mode. In the top window, select your Flyer A drive. In the bottom window, open your Flyer B drive. Click the New Folder button and type in "Flyer A" in the name



The "New Folder" button my friend was talking Figure 1: The Flyer's Record screen show the difference between actual time available and

requester and hit the return key. When you look at your Flyer B drive, you will now see a folder named "Flyer A." Open it. Select a crouton in Flyer A and then click the "All" button that is between the two screens. This will select all the croutons in Flyer A. Grab one of the croutons and drag it down into the Flyer A folder. It will take several minutes for the files to be copied. When it is done, the Flyer will have copied all of your A drive's files into the Flyer A folder on your B drive. Now, after you have reformatted your A drive, just open the Flyer A folder and copy its contents back over and you're in business again.

The Folder button is also a great tool to organize your drives if you are working on several projects at the same time. Instead of having 65 video croutons for different clients' projects, you can have a folder with all of Client A's video clips, another for Client B's and a third for Client C's. Folders are also nice for projects that will use a tremendous amount of croutons. I recently worked on a project that used about 300 Framestores. If I did not categorize those Framestores and put them into folders before creating the project, I would have had a difficult time finding the ones I needed as the project progressed. Also, the Flyer would have been slow at showing so many icons at one time. It can do it, but it might take several minutes to load all the icons into RAM.

Tabs

Tabs are another great tool included with the Flyer. They are the seven buttons at the bottom of the Sequencer that look like folders stacked together. I'm sure you have used the preset tabs that come with the Flyer to go to your Flyer drives, the NewTek drawer or to the Effects drawer. They are short-cuts to directories on your hard drives, and you can create your own with the Set Tab button. The benefits of having tabs are obvious if you frequently have to go into a folder, that is in a folder, that is in a folder, and so on. A great example is if you have several CG Frames that you need to access periodically while editing a project. If tabs did not exist, you would first have to open your Work drive (or whatever drive that your Flyer software is on), then open the NewTek drawer, then the CG drawer and then the Frames drawer. If you created a folder to group these particular frames together, you would have to open that drawer as well. Finally, you could pick the frame that you needed-if you could still remember which one it was.

Creating a tab to go directly to a specific folder is very easy and will save you time in the long run. You don't even have to destroy one of your existing tabs. To the right of the tabs is a button with a curled arrow on it. If the first bank of tabs is filled, click this button. It will take you to another bank of tabs that are blank. Once you fill this row, you can go to another one. Then when you need a

particular folder, you can cycle through the rows of tabs to get to the one you want. You can make as many of these as you like.

Let's make a tab that goes directly to the CG Frames folder. First, click the curled arrow button. We want a tab that has not been set yet. To create a shortcut to a folder, we first want to go to that folder. So, open up your Work drive, then your NewTek drawer, then the CG drawer, and finally, the Frames drawer. Now select the Set Tab button at the end of the tab row, then the tab that you want to set. We'll select the tab on the far left. A requester will pop up asking you to name the tab. We will name this one "CG Frames." Hit return

and you will see the name appear on that tab. You have just created a short-cut that will always go directly to the CG Frames drawer. Again, you can create as many as you want and you can name them whatever you want. If the name is too long, however, it may not all appear on the face of the tab.

Icon vs. Name

Having a graphical representation of a video clip or Framestore is great. You can quickly scan through your files to the one that you want. Sometimes, however, it is better to just be able to see its name. This is especially true if you have created several Framestores that are all very similar. With icons, small changes in detail are easily missed. Again, the people at NewTek thought of this and made it easy to toggle between an icon image and its name. To do this, just hit the right

Amiga key. In all the File windows, your icons will change to the file names. Hit it again and it will change back to the icon.

"When you reorganize your drives, the Flyer rearranges all the clips

so each one is in a

continuous section."

Reorganizing Flyer Drives

If you are having trouble playing video clips, the best solution is to shut down your computer and let it sit for a while to cool off. It sounds unbelievably simplistic, but it usual-

ly works. However, if after rebooting you are still having video stutters or messages saying your drive is not fast enough, it may help to reorganize your drives. If you record and delete a lot of video/audio clips, you may have some that are fragmented. This means that a clip may be in pieces on your hard drive. When you record a clip, the Flyer tries to save it to your hard drive as one long file. However, there are times when you record a clip that is longer than the amount of continuous space available. Although there is enough room on your hard drive, the spaces available may be in small chunks. Therefore, the Flyer may have to save a 30 second clip in three different spaces:

ten seconds in one space, 15 seconds somewhere else and the last 5 seconds somewhere else. When you play that clip, the drive has to work harder to play it than if it were in one continuous section. It has to jump around to get to each section in time. When you reorganize your drives, the Flyer rearranges all the clips so each one is in a continuous section of the drive. It is very easy to tell if you need to do this. From the Sequencer, click the New Clip button. In the middle of the record Panel are times indicating approximately how much time the selected drive has available and how much time would be available if the drive was reorganized.



Figure 2: The Files/Files menu allows users to create a folder and put Flyer Drive A's contents onto the Flyer B drive. This way, you don't have to mix clips.

If these times are not close to being the same, you should reorganize that drive soon. It could take quite some time to perform this, but it is worth it. One word of caution. If you have the ability to back up your hard drive's data, it is recommend that you do so before reorganizing. Although the process works well, there is a possibility that some data can be corrupted due to the heavy amount of copying and movement that the files experience. I reorganize my hard drives every few months and have never had a problem. Check all of your drives periodically regardless of their performance. It is better to maintain healthy drives than wait and have to react to a problem later.

Fix Project

Although an entire article could be written on all the useful ARexx scripts included with the Flyer, I just want to focus on one right now: the Fix Project script. This tool is designed to help find

Back To Basics continued on bottom of page 57

Magic Toaster Marriage The Toaster Rubs Aladdin's Lamp

by Greg Ambrose

hen GRA Video Production Services made the transition from a S-VHS to a BetacamSP based operation, we also made the switch to Pinnacle's Aladdin from a Panasonic WJ-MX50. The Video Toaster is the heart of our original S-VHS editing system, so when we installed the MX-50, we were mostly interest-

ed in the improved quality in DVE, particularly picture-inpicture compression. This year we made the move to the Pinnacle Aladdin for essentially the same reason—quali-

ty-and Aladdin gives us extremely high quality at an affordable price, just like the Toaster. Each has its strengths and together they are awesome.

"The computer marriage was simply a matter of

nutting Ethernet cards

in both computers

available, including

using a null modem, but

the Ethernet process

Going to the Chapel

The Video Toaster remains an integral piece of our post-production process, and the easy marriage to the Aladdin gives us tremendous power and flexibility. Like and installing TCP/IP many Toaster owners, we use a wide variety of software developed for the software. Less Toaster/Amiga environment including ADPro, ProFills, Deluxe Paint, Pro-Control, T**expensive options are** Rexx, Composite Studio. We also use numerous Light-Wave 3D related items, such as Sparks, Dynamic Motion Module, surface textures and objects/models. Our Amiga also contains a DPS Personal Animation Recorder and Sunrize's Studio 16 Digital Sound System. To get the most out of the Amiga/ **is the fastest."** Video Toaster, we decided to marry it to the Aladdin and our Pentium computer.

There were two key ele-

ments to this interface: the computer hardware marriage, with the Amiga connected to the Pentium (Figure 1), and the video marriage, with the Toaster interfaced with the Aladdin.

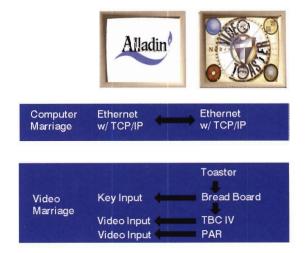


Figure 1: The hardware marriage of the Toaster and the Aladdin.

The computer marriage was simply a matter of putting Ethernet cards in both computers and installing TCP/IP software. Less expensive options are available, including using a null modem, but the Ethernet process is the fastest. Now, file transfers between the computers are a snap with File Transfer Protocol (FTP.) Though Aladdin comes bundled with its own powerful paint program, we still like having the ability to create or alter images with all that powerful Amiga software. Then we simply transfer the files to the Pentium for use in Aladdin's frame buffers.

The video marriage was just as easy. First, we fed the PAR to an Aladdin video input. Aladdin comes bundled with Crystal Topaz, but I have to admit that we are LightWave 3D bigots. LightWave would run faster on the Pentium, but we prefer letting it operate on the Amiga rendering directly to the PAR while the Pentium and Aladdin are busy with other work.

A Powerful Combination

The real payoff to the Aladdin/Toaster marriage came from installing Prevue Technologies' BreadBoard into the Amiga, providing direct access to the Toaster's key channel and sending it to Aladdin's key input. The Toaster output is then sent to an Aladdin video input. It all turns out to be quite a powerful combination

High quality CG graphics created in the Video Toaster can be keyed very cleanly in the Aladdin, so Toaster users can continue to make use of the wide variety of fonts shipped with Toaster CG. And the Toaster's output virtually adds a second channel of DVE to the Aladdin. We use a

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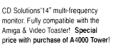


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Figure 2: The video interface of the Toaster and the Aladdin.

lot of graphics in our clients' training videos and the ability to use the Toaster's transitions inside of an Aladdin layer bus gives a lot of speed and flexibility in editing (Figure 2).

To do this, we simply set up an over the shoulder frame in an Aladdin layer. Then simply feed the Toaster output to that layer. Successive graphics presented in the layer can be transitioned with the Toaster's switcher using any Toaster effect. (We used the Toaster's familiar Pour effect in our example.)

Then we used Aladdin's second layer to key the speaker's name and

title without the DVE. For those who really like Toaster wipes, many can be used as Quasi Genie Wipes. Just put a live video source on a layer bus with a linear key. The key input to the Aladdin can be either the Toaster's key output or video output. Then in the Toaster, place a black still store on the program bus and a white still store on the preview bus. When the Toaster effect is executed, the source on the Aladdin bus is taken off screen revealing the next layer or the program bus. By using the Toaster's genlock utility, graphics and some 2D animations created in Deluxe Paint can be input and keyed over live video in the Aladdin.

Obviously, the Toaster must be timed into the Aladdin to make this marriage work. The Toast Timer from Prevue Technologies is one solution. We chose to run the Toaster output via the BreadBoard to a TBC-IV from Digital Processing Systems. We decided to use this option because we needed to transcode the Toaster output to analog component. An option

card for the TBC-IV provides component output directly. Alternatively, a 50 pin connection between the TBC-IV and the PAR provides component output thru the PAR when operated in EE mode.

The net result of our story is that the acquisition of the Aladdin has moved us up more than a few notches in quality and capability. But the successful marriage of our Video Toaster to the Aladdin has given us a very powerful way to make magic by rubbing Aladdin's lamp.

Greg Ambrose is President of GRA Video Production Services located in Elgin, Ill., just outside of Chicago. His company specializes in producing "affordable video for business." He may be reached at 708-608-0528 or by fax at 708-608-0445.

EDITORIAL EVALUATION

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Back To Basics continued from page 55

missing croutons and replace them into that project. The reason I mention this script is in case you have created folders to organize you drives. If you moved croutons that were already in a project into a new folder, the project will not be able to find them. To use it, load a project that contains missing croutons. When the requester asks if you want to continue loading the project, click yes. After the project is loaded, you will see question mark icons that are place-holders for the missing croutons. To replace them with the original, go to the ARexx drawer and select the Fix Project icon. It will first ask you if you want to search using the Standard or Semi-Automatic parameters. Chose standard. Then, go to the folder that contains that crouton and double click it. You will have to do this for each missing crouton, then the script will ask you to save the project. Before using this script, you may have to do some digging to see where you moved the crouton. Start by highlighting the question mark icons and selecting the Controls button. In the Controls window is information on where the crouton used to be. From there, you

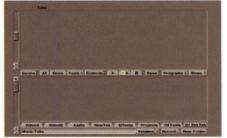


Figure 3: The Flyer Project/Files menu with no croutons. You can highlight the tabs and the New Folder buttom with a simple click.

"Before starting your next project, think about what you will be creating.
See if you can make folders or tabs to organize the project."

may be able to trace what happened.

Before starting your next project, think about what you will be creating. See if you can make folders or tabs to organize the project. Then, when you make framestores or CG pages, you can save them directly into that folder and access them directly with a tab. Also, try to spend about an hour a week exploring what the Flyer has to offer. I know that this is easier said than done, but you might find a script or button that would save you time during your next project. If you do not know what a button does, press it and see. As long as you do not save the results, you will not affect a previously saved project. But there are always exceptions to this, namely the Default ARexx script. This script will automatically put whatever project is open into the Flyer's Start-up script. So every time you open the Flyer, that project is loaded. That can be an annoyance.

Good luck and have fun exploring!

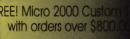
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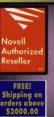
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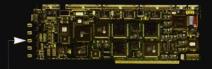
The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with \$50,000 video tape decks.

Not JPEG. Not MPEG. The Flyer utilizes a breakthrough technology called VTASC, which was designed from the ground up to put broadcast quality video onto a hard drive.

The Flyer is a powerful tapeless editing system. Record video and audio segments as clips, which you arrange using a simple drag and drop interface. Using the Video Toaster System 4.0 software, add real-time video effects, graphics or text. Press the play button and your video plays back, real-time in broadcast quality. You can even use the Flyer as an animation recorder with LightWave 3D.

Of course, great video requires great audio. A powerful DSP chip provides up to eight tracks of 16-bit, CD quality audio for music, sound effects and voice overs.

"The technology of the Flyer will fundamentally change our lives. Now. making changes in your videos is interactive. The results you get are something so much better than anything you could have imagined." Brad Carvey. Free Range Digital Imaging, Inc., Albuquerque, NM.







Your Flyer card is the heart of the new Video Toaster. With your Flyer installed in the Video Toaster Bay™, it becomes the new Video Toaster system. Now, you have a portable field recorder. Plug your camera into the Toaster and record direct to hard drive.

Your new Toaster system also has built-in time base correction with proc amp controls, three digital still stores, a four input production switcher, video processor, luminance keyer, SMPTE time code reader/generator and a single frame animation recorder.

The Flyer installed in the Toaster Bay gives you the added flexibility of running it with your Amiga/Toaster system or any PC running Windows 95 or Windows NT. Everything you love about your Video Toaster Flyer and the freedom to use it anywhere.

"With the Flyer it is phenomenal how fast and easily you can create A/B roll edits. I can put together 5 shots with dissolves in 5 minutes, before the Flyer, that same job would have taken an hour." Rex Olson, Rave Video Productions, Burbank, CA.

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INTERNET:

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Flyer Requires: Amiga 2000 or 4000, Video Toaster Card and Video Toaster System 4.0 software with 9MB of RAM minimum, 100MB free on hard drive. Single SCSI II drive required for LightWave recording. For A/B roll editing two SCSI II drives and one SCSI drive is required. Input from video tapes must be time base corrected. Consult your dealer to configure a system suited to your needs. Some features require an Amiga with the AGA chip set. Specifications subject to change without notice. Amiga is a trademark of Commodore, Inc. Windows 95 and Windows NT are trademarks of Microsoft Corp. Video Toaster, LightWave 3D, Video Toaster Flyer, Video Toaster Bay, ToasterCG and Toaster are trademarks of NewTek, Inc. Design FryeAllen, Inc. © NewTek, Inc. 1995.



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Panasonic

Broadcast & Television Systems



AG-456 2-Hour S-VHS Camcorder

- · S-VHS system records and plays over 400 lines horizontal resolution
- . Now includes manual zoom control
- Laminated amorphous heads assure exceptional picture quality, high resolution superb color reproduction, and high signal-to-noise ratio
- 12:1 power zoom lens with continuously variable speed zoom
 Hi-fi stereo and linear track for recording. Also has "Audio Out" select switch for
- Hi-fi/Normal/Mix combinations
- High performance stereo zoom microphone features three different settings
- Wide, Telephoto or automatic zoom.

 Built-in VITC (Vertical Interval Time Code) time code generator gives absolute address to each frame of video for frame accurate editing (with specific edit systems

AG-EZ1 3-CCD Digital Videocassette Camcorder

Heralding a new era in video, the AG-EZ1 is the world's first camcorder to incorporate 6mm DVC (Digital Video Cassette) technology. The biggest leap in video since S-VHS and Hi8 were introduced six years ago. DVC is a revolutionary video format that delivers such high quality—if literally rivals broadcast cameras. Utilizing DVC the AG-EZI <u>records</u> an extraordinary 500 lines of horizontal resolution—nearly 25 percent more than S-VHS, Hi8 or laserdisk, and 50 percent better than a live television broadcast. And because it's digital, picture quality is not only sharper but unbelievably clean.

Audio is also recorded digitally, resulting in quality equal to that of CDs. In addition

to it's digital capabilities, the AG-EZ1 also features a 3-CCD pickup system, 180,000 pixel color viewfinder, 10:1 power and 20:1 digital zoom, full automatic and ma trols and a large LCD panel.

- . Three CCDs with 270,000 pixels each are horizontally staggered
- Digital recording system delivers incredible 500 lines of horizontal resolution and virtually no noise. The signal -to-noise ratio is 54dB, an improvement of 6-9 dB over conventional ana log systems. This actually represents a S/N ratio 2-3 times better than existing camcorders
- Audio is also recorded digitally using PCM (Pulse Code Modulation) for quality that rivals CDs. You can choose between two channel 16-bit recording or two sets of 12-bit stereo, with the second set reserved for uses such as narration.
- Includes a huge 1.5" 180,000 pixel color viewlinder. The viewInder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Variable high speed shutter goes from 1/60—1/8000 of a sec-
- . Built-in Digital Electronic Image Stabilizer (DEIS) compen sates for jittery video and is particularly effective when digital zoom is employed.
- Equipped with 10:1 power and 20:1 digital zoom lens .Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from light to wide angle, or vice versa, in under two seconds. For extreme
- great for creating video photo albums or insurance tages, as 290 still pictures can be recorded on a single 30-minute tape and 580 shots on a 60-minute tape. Using the TopScan fea-
- corder status and operating modes

- close-ups the lens can focus up to 1/4 inch from the subject. Digital Photo-Shot let's you record a still-frame for about six seconds, while audio continues as normal. This feature is
- ture any shot, can be found easily

AG-DP800H WUPERCAM

S-VHS 3-CCD Digital Signal Processing Camcorder



- . Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieves over 750 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of 18 at 2000 lux. Additionally the Frame Interfine Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright infurnination
- Digital Signal Processing circuitry provides four valuable benefits Consistently reliable up-to-spec performance.
 Fine adjustment of a wide range of parameters.
- 3) Memory storage and instant recall of specific settings
- 4) More flexible and higher quality image processing, as well as

easier maintenance.

- . Some of the DSP circuits and their functions:
- CHROMA DETAIL This function compensates for poor resolution in the high chroma areas of the picture.

 DARK DETAIL Determines optimum degree of contour enhancement fin dark areas to deliver crisp, natural-looking images
- HIGHLIGHT COMPRESSION Expands the dynamic range of the highlighted areas and prevents halation. The highlight com-pression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight. FLARE CORRECTION CIRCUIT Compensates for unsteady black caused by light or by a subject's movements.
- Six Scene File modes. There are two user modes for custom digital parameter settings including Horizontal Detail, Vertical Detail, Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and sparkling.
 In addition to regular AGC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables shooting under
- illumination as low as 2 lux while retaining detail and color balance
 Synchro Scan function allows flicker-free shooting of computer monitors. Electronic shutter increments can be set variably from 1/61 seconds to 1/253 of a second.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
 Two hi-fi stereo audio channels with a dynamic range of 80 d8, as well as two linear audio channels with Dolby NR. Normal/Hi-Fi
- recording is selectable. Uses XLR connectors to further ensure high-quality sound.

 Has a 26-pin connector on the back that outputs a composite or component video signal. This enables convenient backup
- recordings using an additional VCR equipped with a 26 or 14-pin connector

Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use

DP-800H "LS" Package: • DP-900H Su percain 3-CCD camera head with 1.5" electronic:

- viewfinder and Anton Bauer Gold Mount battery

 Fujinon S14x7.5 BRM 14:1 servo zoom lens
- -S800 soft carrying case . WY-QT7 90 triesed mounting plate
- DP-800H "XL" Package:
 DP-800H Supercarn 3-GIDP camera heiad with 1.5" electronic
- viewfinder and Anton Bauer Gold Mount hattery
 Fujinon S14x7.5 BRM 14:1 servo zoom lens
- CC-H800 Thermodyne hars shell carrying case
- . WV-QT700 trigod mounting plate
- · Two Anton, Bauer Digital Trinspack 14 batteries
- . Anton Basser 2-position quick charger

GR-DV1 **Digital Video Camera**

turers of AV equipment—and uses the mini DV cassette, which is only slightly larger than a matchbox. JVC's technical achievements—such as the new glide mechanism and multi-layer PCBs—have made it possible to create the world's smallest and lightest camporder. Offering first-class picture and sound quality, the GR-DVI is packed with high-performance features that make it the ideal AV tool for the multimedia age.

COMPACT AND LIGHTWEIGHT DESIGN

- Weighs only 1.0 lb. (450G) and measures 11%" x 51% x 3%" (43 x 148 x 88mm).
- Fits easily into pocket or purse. Handy upright design allows easy operation

HIGH PICTURE AND SOUND QUALITY

- 570,000-pixel 1/3" CCD for enhanced detail
- . Low fux operation: less than 1 lux in slow shutter mode.
- High-res digital image stabilizer eliminates camera shake without effecting picture quality or image size.
- PCM digital audio stereo recording modes (2-ch/48kHz/16-bit & 4-ch/32kHz/12-bit).

SPECIAL EFFECTS (Shooting)

- 100x super digital zoom (10x optical).
 12 digital effects and 18 scene transitions.
- Snapshot mode for shooting "snapshots".

 Motor drive mode shoots snapshots in rapid
- Soueeze mode adapts to widescreen (16.9) TVs

SPECIAL EFFECTS (Playback) Connects directly to a TV

- playback.
 Mounts on the supplied docking station
- Mounts on the supplied docking station for special playback and editing.

 Docking station offers VCR controls, audio and video output jacks (including S-video). Can also be operated using remote controller.

 5 digital effects (eeho, black & while, sepia.
- strobe, and classic film) plus pinpoint 10x digital zoom during playback.

EDITING FUNCTIONS

- Insert editing and stereo audio dubbing.
 Snapshot search for creating video albums.
 New random assemble editing for programmed rearrangement of up to 8
- scenes at a time via remote controller
- 5 digital effects and 17 scene transitions (by scene) during editing Built-in digital time code plus computer connection interface protocol) allows for future expandability. nnection using JLIP (joint level

USER-FRIENDLY OPERATION

- Menu system reduces the number of controls and switches Unjoye slide-in/out electronic color viewfunder which also acts as power switch.
- Full auto mode and adjustable manual modes
- . 5-sec. rec (QwikPix) keeps scenes lively

C PROFESSIONAL



Non-detachable 14:1 professional servo zoom lens has a motorized iris that smoothly adjusts to varying lighting

in low-light conditions, you can choose from a variety of gain settings up to +24 dB with minimal increase in noise in addition a Maximum Gain Mode allows you shooting in near darkness. Achieves an incredible 100% video level in

conditions. The zoom and iris can be manually operated for

GY-X3 **3-CCD S-VHS Camcorder**

By employing protessional camera technology in new economical ways, the new GY-X3 delivers all the performance you expect from a 3-CCD camera: higher resolution, better sensitivity, lower noise and mor enalural color resolution—without a hetty price tag. It features a full-size head drum, 550 lines of horizontal resolution, 60 dB signal-to-noise ratio, sensitivity of F8 at 2000 lux and retiremum situmination of 4 lux. It also has XLR balanced audio inputs, time code generator (CTL), 1.5" viewfinder, powerful 14.1: servo zoom lens and much more.

• Evended Electropic Lis convides a confusiously variable shutter.

- Extended Electronic Iris provides a continuously variable shutter without using ND filters. Allows smooth continuous point and shoot work from dark hallways to bright outdoor settlings.
 1.5" high resolution viewfunder displays tape remaining, date and
- time and battery condition. Key parameters like audio levels can also be superimposed over the picture if desired.

 Two-channel Hi-Fi audio recording (with separate XLR balanced

Two-channel Hi-Fi audio recording (with separate XLR balanced inputs) plus a linear audio track.
Variable Scan Mode for ficker-free shooting of computer CRTs
Designed to be as comfortable as it is affordable. Wighing only 12.8 bs. including liens and viewtinder, the camea is perfectly balanced for exceptional comfort. All controls, including audio level adjustments are all your fingertips.
Duilt-In Control Track (CTL) time code generator writes absolute trame address data not the control track of the tage. When the tage is played back in the JVC Edit-Desk system (see below), the time code dras as accessed. Thus ensuring accurate logging and editing, in addition, the GY-X3 logs each new recorded scene in the "user bir" portion of the fine code. This Scene Finder function lets you quickly locate the next or previous scene with the Edit-Desk system. Scene numbers are also displayed in the LVC display of the camera.

hight as low as 4 lux - Automatic Level Control lets you pan from a brightly lit to a dimly lik area in one take, without adjusting gain settings. The GY-X3 automatically detects and applies the correct amount of gain so you can concentrate on getting the shot - yull Time Auto White function analyzes the light sources' color temperature and continuously corrects changes. Follow a bridle from outdoor surright through a fluorescent lit haliway into a reception room and never have to adjust the white bialines. Also indispensable when shooting outdoor sunset weddings. 3-CCD S-VHS Camcorder

Newly designed three 1/2° CCD image sensors deliver 750 lines of horizontal resolution and superb signal-to-noise ratio of 62dB. New micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb flootage with excellent color balance at a mere 1.5 lux.



• Variable Scan allows flicker-free shooting of a computer screen Quick Record Mode - when turned on the camera is set to fine auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Ins which provides both variable gain and wagable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, ins or ND filter.

 Full Time Auto White circuit lets you move from incandescent to fluorescent to outdoor lighting without changing white balance or the filter wheel. • Dual output system allows camera output to-be-connected

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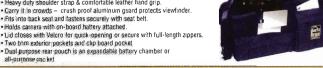
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built-in frame provides added protection. Heavy duty shoulder strap & comfortable leather hand grip

- Carry it in crowds crush proof aluminum guard protects viewfinder
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SONY

SVO-2000 S-VHS Hi-Fi Editing VCR

The new SVO-2000 is a powerful, yet easy-to-use S-VHS Hi-Fi editing recorder. Two SVO-2000 recorders combined with the optional RM-250 Edit Controller forms a cost-efficient cuts-only editing system - with full assemble, video insert, audio dub and program editing capability.

Superb Videe and Audio Performance

- S-VHS format delivers 400 lines of horizontal resolution and

- -s-vrs format delivers a up lines or nonzonnal resolution and consistent, clear image reproduction for superior editing results.
 Adaptive Picture Control (APC) System for optimum picture performance. In record mode, APC automatically tests an inserted tape and checks the condition of the video heads. It then adjusts the VCR recording circuitry to capture images that are as clear and crisp as they can be. In Playback mode, APC automatically use the characteristic and the control of the conditions of the conditions. sets the ideal balance of picture sharpness and clarity.
- Hi-Fi stereo recording system has a wide frequency response of 20Hz to 20kHz and a superb 90dB dynamic range, and individual recording level controls for the left and right channels



- The SVO-2000 has a Control-Edit Spin remote terminal that allows it to be controlled externally. Connects directly to RM-
- · With Control-S input and output terminals, two SVD-2000s can
- be connected for synchro editing, without the RM-250.

 RM-250 also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes

SVP-5600 and SVO-5800 S-VHS Player/ S-VHS Editing Recorder

SVP-5600 and SVO-5800 features:

- S-VHS with high quality signal processing techniques like
DMR, Digital Field DOC and Chroma Process improvement, to
deliver the consistent picture quality so essential to editing.

They also incorporate a wide video head gap and track width (58mm) for stable and faithful picture reproduction. Each has a built-in TBC plus an advanced

- Each nas a built-in 18C plus an advanced Digital Noise Reducer (DNP) for both the chrominance and luminance signals to eliminate noise during playback. At the same time, a field memory incorporated in the noise reducer removes jitter to provide sharp, stable pictures. The field memory, also includes a Digital Field DOC (Depond) Compensatory, which DOC (Dropout Compensator), which replaces signal dropout with information from the previous field.
- chroma Process Improvement circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.

FOUR CHANNEL AUDIO SYSTEM

 Two Hi-Fi tracks provide a wide frequency response from 20th: to 20th: and a superb dynamic range of 90th. Two lin-ear tracks incorporate Dolby 8 noise reduction for high quali-ty sound reproduction. XLR connectors are used for the inputs and outputs for all four channels.

MULTIPLE INPUTS AND OUTPUTS

Both machines employ composite and S-Video connectors. With optional SVBK-170 Component Output Board, they provide component signal output through BNC connectors.

ADVANCED ED.TING FUNCTIONS

Both employ a sophisticated servo system, an improved quick response mechanism and built-in LTC/VITC time code capability. This makes them ideal for animation and computer graphic recording, where a frame-by-frame editing function is information.

indispensable.
• Equipped with RS-422 9-pin serial

When connected to an RS-422 equipped edit controller, the SVO-5800 performs assemble and insert functions and also provided audio split editing capability of normal audio tracks 1 and 2. In the insert mode, video, audio and time code can be inserted independently, or in any com-

USER FRIENDLY OPERATION

- Buit-n character generator superimare poses time code data, control track, menu setup and VCR function status on a monitor.

 For more efficient operation they have an on-screen setup menu which allows a variety of customized VCR mode operation. tions. Programmed in the form of a layer structure, you sim-
- ply go through the menu and initialize VCR operation.

 All parameters of the TBC, such as luminance level, chroma All parameters of the TBC, such as luminance level, chroma level, setup, hue, YZo delay, sync phase and SC phase are easily controlled from the front panel, and can be remotely controlled from the optional UVR-60 TBC Remote Control, which also accesses field freeze function in the still mode and allows on/off control of chroma and luminance noise reducer.

Panasonic 🧲

AG-1300

Industrial 4-Head VHS VCR

- HR (High-Response) mechanism uses the full-loading tape transport system for quicker picture display, fast forward and rewind.

 Enlarged multi-function display gives all information at a glance. Indications for the time, recording or playback mode and other often used functions are easy to conflim from across a room.

 S-VHS quasi playback (SDPS) let's you playback S-VHS tapes (in normal VHS resolution).

 On-screen display (in four languages) provides clear and easy to follow programming instructions.

 Industrial strength VCR, the AC-1300 features a rugged metal cabinet on an aluminum die-cast chassis. Includes full one-year warranty on parts and labor.

 Other features include: built-on head cleaner, automatic repeat, real-time counter, frame advance, high-speed search (27x in SLP mode), 181-channel tuner, one touch recording.

AG-2540 Industrial 4-Head VHS Hi-Fi VCR

- Same exact features as the AG-1300 plus—

 Super jog/shtuttle puts 19-step control over playback speed at your fingertips, giving you greater control while searching for scenes.

 Hi-Fi stereo sound system with a dynamic range of more than 90 dB.



AG-1980 S-VHS Hi-Fi Editing VCR

Incorporating advanced digital signal processing and digital noise reduction circuitry, the new AG-1980 defivers such high picture quality—that if is third-generation picture looks almost as good as first-peneration of

remote editing terminal.

Still the only VCR in it's class to provide near frame accurate editing. When used with edit controllers from Videonics, FAST and FutureVideo, the AG-1980 achieves an accuracy of ± 2 frames And, the 5-pin edit terminal on the rear panel makes it very easy to set up an editing system.

Performs all assemble and video insert edits as well audio video dubbing. Also has independent linear audio input and output for

Performs an assemble and video insert edits as well additived obtaining. Also has independent linear addition input and output for more flexible audio dubbing.

Hi-Fi stereo audio with a frequency response of 20Hz to 20kHz and a dynamic range of 90dB. It also has Hi-Fi recording level control, headphone monitor terminal with volume control and a mic input terminal.

- Digital Processing
- Joylar or rocessing.
 Equipped with a Digital Comb Filter using an advanced 3-dimensional system the AG-1980 provides complete Y/C
 uminance/chrominance) separation. This practically eliminates color and luminance blurring.

 -Field coefficient Digital Noise Reduction (DNR) circuitry processes the Y and C signals separately, thereby boosting the signal-to-
- noise ratio and reducing noise during playback.

 —Has a built-in full field TBC (Time Base Corrector) that eliminates even the smallest of jitter, skew, head impact error and color
- blurring, Invaluable for editing, the T8C helps maintain high picture quality even through the third-generation.

 Besides it's digital circuitry, the AG-1980 also features laminated video heads. Clearly superior to heads of conventional ferrite they provide richer, more vibrant color reproduction and a higher signal-to-noise ratio.
- mode and 1.9 seconds from FF/REW.

-300 DME Switcher

The DFS-300 features basic transitions such as wipes and mixes, as well as complex DMEs, or digital multi effects. It allows you to insert sophisticated patterns like just but end in the product of the pattern of the product of the

POWERFUL MULTIPLE EFFECTS

- Up to 500 Effects

 330 factory preset 2D effects and wipes stored for immediate use. They include wipe, compression, rotation, slide, split, mirror, stream, etc. as standard.
 With the optional BDKF-301 3D board installed, 130 additional
- preset effects such as twist, page turn, sphere, etc. can be memorized and recalled whenever required.

Multi-Format Inputs/Outputs

memorated and recalled whenever required.

Powerful User Program

Provides powerful, yet easy to operate effects programming to build your own effects. Cut, mix, wipe, stide, rotation and many other 20 effects and optional 30 linear and digital effects can be created with the unit's programming function. Up to 20 created effects can be stored for instant recall and that is doubled when the 30 board is installed.

- Effects Modification
 To suit individual tastes, alicuse effects modification for some of the preset effects like mosaic, posterization, solarization, wave, multi-picture, strobe, frosted glass, cinema mode, etc.
- Fine control over various parameters such as size, density and amplitude further enhances effects editing

- ampitude further emanaces effects outling.

 Transitions

 111 of the most frequently used wipes are available from the preset patterns and 13 of them are directly accessed with a press of the keypad.

 Mixes, wipes, as well as digital effects transitions can be performed manually or automatically. Automatic transitions can be varied from 0 to 999 frames in duration for both foreground and background have transitions and the DSK transitions. and background bus transitions and the DSK transitions.

NCE SWITCHER **HIGH PERFORM**

- Multi-Format Inputs/Culturus
 Three primary inputs accept composite, S-video and component signals. A fourth input accepts either component, R/G/B/Sync or a computer generated R/B signal. Color correction can be applied to any input. Two program outputs provide composite, S-video and component signals.
- Luminance Kever
- Foreground sources such as titles, captions or figures can be self-keyed over a background source and rotated, compressed and positioned optionally in 3D space.

Chroma Kever

- Superimpose video from a foreground source onto a back.
- Clin and Hue can be controlled for clear and sharp key ediges Any preset effect can be applied to the chroma keyed picture **Snapshot Function**

Stores up to 99 control panel settings in "Snapshot" memory for instant recall. Every parameter such as background color hue border width, shadow density, etc. can be stored and recalled,

- Optional Down Stream Keyer

 Optional BDKF-504 DSK (Down Stream Keyer), lets you introduce captions, characters, etc. with clear edge quality, after
- ouce capitons, chalacters, etc. win clear edge quanty, after mix/effects processing.

 DSK key input accepts composite, component or RGB signals.

 Position and type of the DSK are selectable and a box mask is provided to mask unwanted areas of the picture.

Built-in Matte Generator

pouts in matte usererator. Three matte generator for backgrounds; can be a solid color or one of 31 different textured patterns, border and effect matte signals. Also instantly selectable color bars, grid pattern and solid black. With the BKDF-504 DSK, you get two more matte generators for DSK matte and DSK border matte.

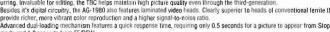
- generators for DSK matte and DSK border matte.

 Other Features

 Four different title modes ofter the ability to perform key effects such as luminance key, chroma key, external key or downstream key from a variety of input sources.

 Three black-burst outputs provide synchronization to equipment requiring sync signals. A genicker input allows the DFS-300 to be synchronized to an external timing source.

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AG-5700 S-VHS Hi-Fi RS-232 Editing VCR

- Has amorphous video heads to yield a higher signal-to-noise ratio.
 Achieves an accuracy of ± 3 frames with optional AG-A570 Edit Controller.
 Built-in RS-232 provides machine control of playback, recording and editing functions from a computer. You can use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
- Auto Repeat function continuously replays a tape which can be cued for tape's end or when recorded material ends.

 • Separate Hi-Fi (Ch.1/Ch.2) audio recording level controls with display. There is
- adphone output with volume control.
- For unattended recording there is a Sensor Recording function. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.
- . For video presentations the AG-5700 is ready to go. Weighs less than 13 lbs, extremely compact with a built- in carrying handle

AG-DS540/AG-DS550 Professional S-VHS Source Player/ S-VHS Edit Recorder

- dimensional digital T8C with a correction range of one field. With the VCRs continuously retaining one field in memory, the data is used for 3
- Of the processing thereby providing excellent dropout compensation.

 Digital Signal Processing for improved picture quality, and for maintain ing uniform picture quality during editing. Digital processing circuits
- -Chroma Aperture Compensation (CAC): Eliminates color blurring and
- chroma perior commensation (CAC), imminised on bothing did expands chroma bandwidth.

 -Digital Noise Reduction (DNR): Processes Y & C signals separately to boost S/N Ratio by minimizing noise during playback.

 -Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation pro-
- Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and turnisance burring.

 Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads.

 Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.

 Built-in LTCATOT (Longitudan/Vertical Interval) time code reader/generators for absolute frame accurate editing.

 10 (Intelligent Quest) mechanism delivers precise, high-speed operation. The dual-loading system achieves high-speed response with protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two real drive motors.

 Performs audo split editing which lets you set the edit-in and edit-oup points separately from those for video.

 Capstan Control System with large capstan spindle allows high-speed search at 32x normal speed (with color picture).

 4 channel audio. 2 his disease channels with dynamic range of 6/10fd as well as 2 linear channels with Double Bach audio.

- 4 channel audio 2 hi-fi stereo channels with dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-0550 orbly) and output with individual channel-level setting capability and use XLR connectors.
 Frovide 16.9 eneration of televisions.
 3 rack units high, they are unbelievably compact for easy space saving installation. 19"rack-mountable with optional AG-M730.

"STEP UP TO SUPERDECK \$1000 REBATE" Purchase one AG-DS540 and one AG-DS550 or two AG-DS550's and receive a \$1000 rebate directly from Panasonic! It's that simple.

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EQUIPMENT LEASING AVAILABLE

S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder **RM-G800U Edit Controller**

Fast, accurate and professional style videotape editing is now more affordable than ever. This new "S" editing system, costing thou-sands less than ever before, consists of the BR-S500U Player/Feeder, the RM-G800U Edit Controller and the BR-S800U Editing Recorder. Linked via JVC's proprietary control bus, these three units ofter all of the editing features professionals have come to expect. The VCRs feature a fast, heavy-dufy tape drive similar to that used in JVC's renowned "22 Series", and the built-in CTL (Control Track) time code provides unparalleled accuracy and flexibility. Best of all the VCRs feature an open architecture for easy system upgradeability.

OPEN ARCHITECTURE

Two plug-in extension slots on the rear panels (for both VCRs) accept a variety of optional expansion boards. To build a PC-based editing system, add the SA-K27UA RS-232C interface board. To use with more sophisticated editing controllers, plug in the SA-K26U RS-422 board. Other boards include the SA-K28UA the SA-A2OU AS-422 board. Other boards include the SA-A2OUA 45-pin board for connection to older JVC editing systems, the SA-A5OU DNR board with time base stabilizer, and the SA-R5OU VITC/LTC time code generator/reader.

CONTROL TRACK TIME CODE SYSTEM

Built-in time code reader (BR-S500U) and time code reader/generator (BR-\$500U) utilize JVC's CTL (Control Track) Time Code System. This system records absolute tape address information (hours: minutes: seconds: frames) on the control track, and pro-vides fast and accurate access to any frame on the video tape. This is far superior to control track counters that lose reference This is at spenior to control had code can be added to the tape during the recording process or "post striped". For profes-sional SMPTE time code operation there is the optional SA-R50U VITC/LTC Time Code Reader/Generator card.

SUPERB VIDEO PERFORMANCE

Has latest picture improvement technologies for razor sharp images, with over 400 lines of horizontal resolution. Digital Y/C separation, chroma noise reducer, chroma aperture correction and a 3-line cross-talk cancellation all combine to offer outstanding image quality, even when dubbing down multiple generations.

32X VARIABLE-SPEED SEARCH

Front-panel search dials featured on both the BR-S800U and BR-S500U provide fast, accurate picture search at up to 32x normal speed. This is possible due to the incorporation of a beavy-duty direct-drive mechanism similar to that used in JVC's "22 Series."

FOUR-TRACK AUDIO

Each features two Hi-Fi stereo channels with a wide frequency response and a dynamic range of over 80 dB and two linear tracks. The linear tracks of the BR-S800U can be dubbed independent of each other and of the video. This is ideal for adding background music or sound effects to an existing audio track.

There are two audio level meters, switchable between the Hi-Fi and linear channels. Separate input and output terminals are provided

RM-G800U EDIT CONTROLLER

- Has two GPIs allowing automatic triggering of special effects generators, switchers or audio mixers.
 Features automatic assemble and insert editing, audio insert editing, as well as preview/review for checking edits before and after

- *Peatures automatic assemble and insert editing, audit insert editing, as well as preview/review for checking edits before and after editing, and got for direct access to any edit point. A capstand bumpf function is provided to assure greater edit on sistency.
 *B-digit LED counter indicates all edit data in either the TC or CTL mode. Switchable between player and recorder.
 *The RM-G800U's Jog control is precise and responsive, making it easy to locate any frame on the tape. You can enter the Jog mode directly and switch between the player or recorder at the touch of a button. The Jog dial can also be used to enter and trim edit points and pulse timing from the GPI ports.



BR-D40 Digital Dockable Recorder

BR-D80 Digital Editing Recorder

BR-D50 Digital Player

BR-D85 Digital Editing Recorder with Pre-Read

High Quality Digital Editing Is Here and It's Affordable!

An affordable, broadcast quality digital video recording and editing system, the Digital-S series reproduce images that not only are superior to any analog or digi-tal 4::1 format but rival even the highest priced digital systems. It offers the robustness and reliability of a 1/2-inch format and combines 4:2:2 component processing with very mild compression to achieve and sustain excellent quality through multi-generation dubbing

The quality of Digital-S applies equally to acquisition and editing, plus it has the flexibility to easily integrate into any digital or analog format—tape or disc.

Purchase the entire system or one component at a time, its flexibility lets you to use existing equipment.

Man See

Digital-S starts with the versatile BR-D40 Dockable Recorder. Designed to produce the highest quality raw footage, the BR-D40 features automatic editing which utilizes a built-in time code reader/generator to ensure perfect, frame-accurate in-camera edits. leatures automate enuing which unless a unin-fit time code reporting release the surgicine perfect, included and output slave-lock function facilitates editing the tapes from multi-camera or iso-cam shooting. Edit with a choice of two powerful editing recorders-top-of-the-line BR-D85 with pre-read and digital I/O or the economical BR-D80. Completing the line is the BR-D50 Player and the flexible BR-D51 Player with S-VHS playback (Available Oct.96). Both players accept the optional SA-D50U digital I/O interface card.

Broadcast Quality Digital Video

- Utilize 4:2:2 digital component processing to add a richness and warmth unobtainable with any fesser system. In addition, only 4:2:2 stands up to the rigors of sophisticated chroma-keying, multi-generational editing, special effects, blue-screen compositing, matting, ATV up/down conversion, and multiple transconversion between compression systems.

 Reproduces finest colored details and subtlest contrasts while
- reproducts mest courted details and subtlest contrasts while minimizing artifacts using extremely mild compression ratio. Set to 3.31 with DCT-based intra-frame coding, Digital Syleids a data rate of 50 Mbps, plus it pumps out horizontal resolution of 720 pixels or 540 TV lines. S/N ratio is an incredible S5d8. Audio is recorded by 2-channel, 16-bil PCM signals with a sampling frequency of 48/kt. The audio is superior to CD and allows frame accurate editing. PCM audio channels can be edit-ed independent.
- ed independently
- Standard analog inputs/outputs provide outstanding perfor-mance for most applications. When virtually perfect dubs are required, they use SMPTE 259M interface for digital video and AES/EBU for digital audio. The one true digital video standard today, SMPTE 259M permits long cable runs and is used for direct professional connection to digital switchers, disk-based recorders and digital tape recorders

Robust 1/2-inch Format

- Achieves its super-high image quality using a robust, 1/2-inch metal particle cassette tape. The cassette housing has a dust-proof structure to increases tape life as well as your images.
 Tape speed is 7.8 mm/s for a recording time of 104 minutes.
 Digital S features an extra wide track-width of 20 microns for
- improved stability and reliability. One frame consists of 10
- tracks with the video area on either side of the audio track.
 Equipped with powerful error correction circuitry that not only replaces data in the unlikely event of a lape dropout but continues to play back a picture even with a clogged head.

Digital Editing

- Digital-S VCRs are equipped with variable slow motion which can be accessed by standard editing commands. Smooth and
- can be accessed by standard enting commands, somotom and noiseless, the image quality of slow motion is equal to regular playback and is available within a range of ±1/3K. Longitudinal tracks include two auxiliary audio (cue) tracks and a control track for tracking purposes. Oue tracks provide easy location of edit points which can be heard at any tape speed.
- Because of its linear control track, Digital-S has a short lock-up time which eliminates long pre-rolls. This feature achieves
- ame winct eliminates using precious editing time.

 Auxiliary video (sub-code) area stores two selectable uncompressed lines of video. Suitable for recording closed caption of other information located in the vertical blanking interval.

PRE-READ EDITING (BR-D85 Only)

Previously an exclusive feature of very high-end digital systems, video pre-read enables the recorder to first play back the digital signal on the lape, before recording a new signal in its place. Operable with either digital or analog signals, pre-read lets you perform layering and A/B roll editing with only two VCRs, instead of three

Operational Conveniences

- Comprehensive analog inputs/outputs (composite, S-video an conent), video and audio monitor output, RS-422 interface
- and VITCLTC time code.

 Jog/shuttle and system timing controls on the front panel.

 Footage can be searched in color at up ±32X normal speed.
- They have a self diagnostic warning system plus, an RS-232 diagnostic service service port measures digital data performance during playback. There is also a standard hour meter.
 They also feature flying erase head, rack mount capability and
- built-in head cleaner

COLOR MONITORS

PVM-1350 13" Presentation Monitor

- Employs a P-22 phosphor fine pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines. Beam current feedback circuit eliminates white balance drift

- norzontal resolution of 450 norzontal lines.

 Peam current feedback circuit eliminates white balance for long term stability of color balance.

 Has analog R68, S-video and two composite video (BNC) inputs as well as 4 audio inputs.

 Automatic Chroma/Phase setup mode facilitates the complex, delicate procedure of monitor adjustment. Using broadcast standard color bars as a reference, this function automatically calibrates chroma and phase.

 Chroma/Phase adjustments can also be easily performed with the monochrome Blue Only display.

 Factory set to broadcast standard 8500K color temperature

 On power up, auto deguassing is performed. There is also a manual deguass to demagnetize the screen.

- degauss to demagnetize the screen On-screen menu facilitates adjustment/operation on the monitor. Menu display is in English, French, German,
- Sub control mode allows fine adjustments to be made on the knob control for contrast, brightness, chroma and phase

PVM-1351Q 13" Production Monitor

Has all the leatures of the PVM-1350 PLUS =
• A multisystem monitor, it accepts NTSC, PAL and NTSC video signals, NTSC 4.43 can also be reproduced.

video signais. N1St 4.43 can also be reproduced.

• Equipped with a SMPTE 259M Serial Digital Interface. With optional serial digital interface kit BKM-101C for video and the BKM-102 for audio the PVM-

- optional serial digital interface kit BKM-1010 to video and the BKM-102 to audio the PVM-13510 can accept SMPTE 259M component serial digital signals.

 Equipped with RS-422 serial interface. With optional BKM-103 serial remote control kit, all of the monitor's functions can be remotely controlled.

 Inputs include analog RGB, S-wideo component, 2 composite video (BMC) and 4 audio for complete flexibility.

 Aspect ratio is switchable between 4:3 and 16:9 simply by pressing a button.

 Underscan function allows you to view entire image and check the picture edges. Also HV delay to view the blanking area, syncburst timing by displaying the horizontal and vertical intervals in the center of the screen.
- Color temperature switchable between 6500K/9300K/User preset, 6500K is factory preset, 9300K is for a more pleasing picture. User preset is 3200K to 10,000K.

PVM-1354Q/PVM-1954Q 13" and 19" Production Monitors All the features of the PVM-13510 PLUS

- SMPTE C standard phosphor CRT is incorporated in the PVM-1354O/19540. SMPTE C phosphors permit the most critical evalua-tion of any color subject. Provides over 600 lines of horizontal resolution. The PVM-1354O mounts into a 19-inch EIA standard rack with the optional MB-502B rack mount bracket and SLR-102 slide rall kit same as PVM-13510. The PVM-1954O mounts into a 19-inch EIA rack with the optional SLR-103 slide ral kit.

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Animated Postscript Character & Graphic's Generator

A technological and engineering breakthrough, the PowerScript sets new price/performance standards for broadcast video production, multimedia and industrial applications. It delivers the huge range of titles and graphics supported by PostScript display technology, plus animation, effects, transparency and keying. It features anti-aliased, 17.5 ns (nanosecond) pixel resolution and 4:2:2 broadcast-quality video, plus high-speed RISC processing to provide real-time Level 2 PostScript imaging and fast render ing—even with the most complex images. The PowerScript works stand-alone or with a computer, has a built-in TBC, offers a powerful and intuitive interface, and is suitable for the desktop or can be rackmounted.



- Powerful Character Generator

 Choose from 35 built-in tonts or download hundreds of PostScript foits from your computer. It's high-speed RISC processor provides real-time PostScript Level 2 imaging.
 Characters can be rotated at any angle, scaled to any size, stretched horizontally or vertically.
 Styless inches variable bold and fallic, underline and shadow (drop shadow, variable displacement and opacity). Each character can be adjusted sparately.
 Text can be positioned anywhere on the screen or automatically centered; vertically or horizontally.
 Lett, right, lop, buttom & center justification is provided as well.
 Characters are automatically kerned, using the font's standard kerning information.
 Spacing is highly liexibic with variable word and letter spacing gleading).
 Intrifitive User Interface

Intuitive User Interface

- Built-in real-time object-based drawing tool and text editor, no external computer or software required. Design can be done ahead of time and displayed later, or can be done on. the fly. Display is real time,
- Supplied keyboard and mouse are used with easy on-screen Suppred kej board and moluse are used with easy on-screen menus to place and modify graphics and text.
 Customizable function keys let you change fonts, colors, and other characters instantly.
 Separate preview output allows you to create and edit titles while another set of titles is being displayed.

 Roll, Crawl, Animation, Effects

- Variable speed roll, crawl and push (slide) in all directions
- Variable speed roll, crawf and push (side) in all directions
 Every text object, graphic, and logo can be separately animated. Complex animations include ability to have elements follow paths, bounce, etc.
 Elements can change outline and/or fill color, transparency, position as they move and results are displayed in real time.
 Move individual characters in different directions; make colors change; flash words: make letters and words bounce; spin a letter across the screen.
 Use effects like rades and wipes to transition between titles and video or between two pages of titles.



Kever

- Internal linear keyer superimposes characters and graphics
- on S-video or composite sources.

 Also provides anti-aliased down-stream keying via a separate Also provides and Salar linear KEY output.

 Backgrounds and Graphics

 Backgrounds and Graphics

 Backgrounds and Graphics

- Backgrounds and Graphics

 Titles can be placed on solid color, paterned or graduated backgrounds, or they can be periocked to incoming video.

 Lines, squares, rectangles, ovals and circles can be created and placed anywhere on the screen.

 Each graphic object can use a different color, transparency, rotation, size, fill and outline.

 Transparency and Colors

 Characters can be made transparent (0-100%) over video, other characters and graphics with 64 levels of transparency.

 Opaque characters can use over 4,000,000 colors, transparent characters can use over 4,000,000 colors, transparency.

 Opaque characters can use over 4,000,000 colors, transparency.

 Important of the character can use over 4,000,000 colors, transparency.
- Import and display complex graphics created with standard Mac, Windows, Amiga and UNIX-based programs, such as Photoshop, Corel Draw and Adobe Illustrator. Accepts most
- ProttScript or EPS format graphics without modification.

 Imported images can be any size and can be scaled, skewed, and rotated when placed on screen.
- Transparency and anti-aliasing can be defined when graphic is generated.

Expansion Capabilities
PowerScript operates on its own but you can still add
peipherals and connect to a computer or network. Two
PCMCIA slots allow the addition of non-volatile flash-RAM
and Ethernet cards, and an RS-232 serial port allows connection to computers

Built-in Test Generator

Duill-In Test Generator
The PowerScript can generate standard video test patterns including color bars, crossfiatch, ramp, gray wedge, multi-but and blackburst. Titles can be placed atop any of the patterns.

Still not convinced, then call us for a free PowerScript demo tape and see for yourself.





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VIP Video Lighting System

Designed for video, they are capable of 55 to 500 watts of power can be powered AC or DC, camera or stand mountable. They are



The tiny i-light provides fill light, eye-light, high-lights, and contrast control in news and documentary shooting

• Multi-use halogen source

*Stort 100 watt, DC powered light (12 or 14 volts)
 includes cigarette lighter connector or optional 4-pin XLR

Optional controls include expandable barndoors, scrims, dif-fuser, dichroic filter, snoot, umbrella, gel-frame, flags.

V-light

Efficient enough to light a small room yet small enough to fit in a large pocket, the V-light can be used as a broad, key light, back light or fill light (with umbrella or gel.)

• Extreme wide-angle multi-use halogen source

- 500 watt AC no
- red light
- ounts on stand, clamps, boom, wall, window, door-top.

Pro-light

Can be used as a low-level key or accent light, fill light (w/diffusion), backlight or background light.

• Multi-use halogen focusing source

- Monti-use halogen rocusing source
 125 and 250 watt AC powered light or 100 watt at 12 volts
 Optional controls expandable barndoors, scrims, diffuser,
- dichroic filter, snoot & umbrella, gel-frame & flags

DRITA

Blackburst/Sync/Tone Generator

The BSG-50 provides an economical means for generating the most common RS-170A video timing signals used to operate various video switchers, effects generators, TBCs. VCRs, cameras and video edit controllers

- vors, cameras and video edit commoners.

 6 BNC video/pulse outputs

 Now available: 6 blackburst, 4 sync, 2 subcarrier

 Each sync output individually settable for composite sync,
- composite blanking, H-drive, or V-drive.
- Separate buffer for each output—maximum signal isolation

 1 KHz, OdB sinewave audio tone output, locked to video

 Outputs can easily be configured to meet
- specific user and equipment needs.



CSG-50 Color Bar/Sync/ Tone Generator

- · Generates full/SMPTE color bars, blackburst and composite sync signals.

 Built-in timer can automatically switch video output from
- color bars to color black after 30 or 60 seconds. Easy and convenient for producing tape leaders and striping tapes with color bars and black.

 Front panel selection of full-field or SMPTE color bar pat-
- terns or colorblack (blackburst) video output Includes crystal-controlled, 1KHz, 0dB audio tone output.

- Includes dystar-culturing, Irac, due adult one output.
 Outputs: video, sync, ref frame. I. KHZ. OdB
 Audio tone switches to silence and color bars change to black when using 30/60 second timer
 Fully RS-170A SC/H phased and always correct.
- 1349 No adjustment required.....

Window Dub Inserter WG-50 -Generator/Inserter TG-50 -Generator/Inserter/Search Speed Reader TRG-50PC Has all of the above plus RS-232 control. VITC Generator, LTC-VITC Transis /G-50 -VLT-50 -VITC-To-LTC Translator

VITC-To-LTC Translator / RS-232 Control RLT-50 -Hi8 (EVO-9800/9850)TC to LTC Translator NTSC Test Signal Generator Serial Control Titler "Industrial" CG. SCT-50 .

Time-Date Stamp, Time Code Captioning SAG-50 -Safe Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

LIGHT WAVE 3D

The Ultimate 3D Rendering and Animation System for Broadcast Graphics

A new release of the all-in-one photo-realistic animation system that has been used in seaQuest DSV, Babylon 5. Hercules, Star Trek: The Next Generation and Voyager, LightWave 3D version 5.0 allows you to view solid objects and lighting effects interactively as animation is created through the implementation of QpenGL.

interactively as animation is created introduction in impenience. Lightwave 30 5.0 is also the only product to break the poly-gone/spline barrier with the introduction of MetaNURBS. MetaNURBS.performs real time transformations between poly-gons and splines, enhancing your ability to create organic 3D objects easily. MetaNURBS is the first tool to effectively utilize strengths of both techniques making it easier than ever to cre-ate stunning 3D models.

- -Another new modeling feature is MetaBalls, which utilizes spheres to quickly approximate complex shapes. MetaBalls automatically generates a skin based upon that approximation transforming it nto a complex 3D model
- Lightwave 3D 5 0 includes over 100 new features that enhance your ability to create visual effects for television, corporate, entertainment and personal 3D animation

SANYO

GVR-S950 S-VHS Single Frame Recording VCR

- Built-in single-Frame Animation Controller eliminates the need for separate or computer plug-in animation controllers. Industry-standard protocols, make it compatible with most popular graphic and animation software packages.
 SMPTE Time Code Generator and Reader with Built-in Drop and Non-Drop Frame
- Read/Write is fully programmable from an external computer and resettable from the front panel.
- headwhite is thin programmable from an external computer and resentable from the front panel.

 Video and Audio Switcher with Two independent Video and Audio Channels. Each video channel contains both composite and S-Video inputs. Each audio
- cach video chaints to linear and two Hi-Fi inputs Switching can be performed either manually, or under RS232 or RS422 control. Video and audio channels are switched independently letting you perform break-avay edit.

 Auto-Sensing Single RS422/RS232 Input eliminates the need for optional external interfaces. Interface requirements are automatically sensed and adjusted within the recorder
- Input and Playback Video Processing allows adjustments to the video level of the incoming signal. Signal levels and hue can be

Limited availability of like new "B-stock".....only \$1495.00

GVR-S955 S-VHS Single Frame Recording VCR

All leatures of the GVR-S950 PLUS — The GVR-S955 contains an on board two input audio/video switcher. Unlike the GVR-S950, the GVR-S955 can be programmed via the RS-422 bus for complete audio/video breakaway editing. As a result of this "audio/video breakaway" feature, time code can be added to tapes with existing video.

PROCESSING SYSTEMS INC.

DR-2150 Personal Animation Recorder

The DPS DR-2150 Personal Animation Recorder is designed to record computer animation sequences directly to a hard drive and then play them back in real time. The DR-2150 is a card that plugs directly into an Armiga expansion sola and replaces both the single frame record VCR and the single frame controller. Bad edits, missed frames, tape dropouts and other mechanical glitches common to traditional VCRs are a thing of the past. Combines custom ICs and a propietary implementation of the LSI chip set enabling component 4:22 digital recording to a dedicated hard drive.

The hardware adaptively samples each new video image to determine optimum quality. Although standard compression ratios don't apply you can expect four to five minutes of high quality playback from a dedicated 540 MB hard drive.

Has composite. S-Video and component (BetacarryMIII) outputs. Also has a genlock input enabling it to be easily integrated with virtually any video production system.

- Offers multiple outputs; Carr output animation as composite, S-Video and component (Betacam or MII). Also includes a genlock input which enables it to be easily integrated with virtually any videa production system
- Variable speed playback lets you play back 24-bit (16.7 million colors) animation in real-time 30 frames per second, or you can choose a lower frame rate to play back animations in slow
- mouon. Supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files and is tully compatible with all popular animation packages including Morph Plus, Lightwave 3-D, Fractle Pro, Imagine, Vista Pro, and Cinemorph
- Real-time video capture for roto-scoping and other video capture applications is possible when used in combination with a DPS TBC IV card

VR-2500 Animation Recorder

The PVR-250 offers powerful features for awesome animation, morphing and rotoscoping capabilities. With features like 720 x480 resolution, 10-bit 2x oversampiled video encoding, better than D1 scaling, component and S-Video outputs, multi-processor support and FAST SCSI-2 hard drive controller, Perception empowers your computer to rival the finest professional productie *The PVR-2500 is a full-length PCI card with a SCSI-1 interface which connects to one or up to seven dedicated hard drives. Because the SCSI controller is integrated with the PVR-2500, used odata never has to move over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive bor video storage *Designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentum, DEC ALPHA or MIPS processors. Perception's software utilizes NT 3.5's native support for multitasking and multiple processors.

- native support for multitasking and multiple processors, allowing use with the most powerful computers. allowing use with the most powerful computers.

 Perception's exclusive multi-format virtual file system
- allowing Use with in most powering configuration of the perception's exclusive multi-format virtual file system ensures complete imperation with your existing Windows NI applications. Any acquired video or computer generated Perception video clips appear simulatineaeusly in many different file formats including TARGA, SGI, BMP and TIFF. Also compatible with new NI versions of Lightiwase 8D, 3D Studio, TOPAS 51. Pro, Softlimage and Elastic Reality. Video output section vitilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720 x480) resolution. It's dynamic range is in excess of 01 scaling soft that images are brighter, have more color and greater spatial resolution. Component, composite and S-Video outputs are provided van the included breakout cables. Use with any compatible sound card while synchronization of audio and video is maintained by the PVR software. Captured audio is stored on the computer's system hard drive, and the dedicated drives. This approach provides maximum flexibility for manipulating adult and video during edition.

- Can perform real-lime interpolation of 30 fps video to 24 fps film rates or vica versa.
 Perception controls BVU protocol VVRs for video acquisition. VVR-like controls on the Perception's GUI simplifies the task of batch digitizing and recording in this mode, reads SMPTE lime code from the source deck.
 Drivers for Windows 3.1 are supplied as well so third party editing software like Adobe Premer can be used. In fact the PVR-2500 bundled with the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a non-linear editor of unparalled performance at an unbeatiable price.

 The optional AD-2500 is a video capture daughtercard, that transforms Perception into a digital video recorder. The AD-2500 has component, composite and S-Video inputs for AD-2500 has component composite and S-Video inputs for a Captured video can also be exported as sequential RGB files for rotoscoping and other compositing applications.
 The AD-2500 incorporates a sophisticated automatic entropy prediction circuit that analyses the content of incoming video and dynamically calculates the optimum amount of compression on a fleet-by-field basis—even during real-time recording. You also have complete manual control over compression level/quality settings.

Turnkey PVR-2500 Animation and Video Editing System:

Additional Options: Windows NT 3.51 operating system software, Newtek Lightwave 3D 4.0 animation software

HOTRONIC AP41

STAND ALONE TBC/ FRAME SYNCHRONIZER

- Compatible with S-VHS, Hi-8 and U-Matic SP equipment Frame synchronization with full frame memory synchronizes outside satelfile, microwave and feeds with studio signals 4 times sub-carrier sampling. 8-bit resolution Adjustable horizontal and vertical blanking Proc-amp controls are presentable. Each control has a maximum useful dynamic range Front panel buttons substitutions.
- select different operational modes
- Optional pixel by pixel DOC (Drop-out compensator)

AP41-SF Same as above plus S-Video output, freeze frame/field, Y/C adjustment and 16-speed strobe

AP41-SP

· Same as above plus wide-band comb filter (full bandwidth

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MR-1 Wireless System

- The MR-1 micro receiver is a professional VHF wireless receiver measuring less than 4" long and 2" wide.

 FCC licensed in 14 channels from 174 MHz to 213 MHz.
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 Truly switchable balanced mic level (600 ohms) to unbalanced (-10 dBm) output.
 dbx noise reduction to simultaneously increase dynamic range and eliminate noise.
 Receiver squelch, level & headphone level output controls.
 Can be powered by a 9V battery for 10 hours.

- SH-2 hand-held transmitter can be used with mic elements like Shure SM 58 dynamic mic or Audio Technica Pro 4.
- ST-2 (L) body pack transmitter can be used with leading mics like Sony ECM-144 or Audio Techni

Lavalier (clip mic) Systems

ST-2(L)ECM-144 Transmitter with Sony mic & • ST-2(L) ECM-44 Transmitter with Sony mic &

Hand-Held Systems

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SUPER TD SERIES TRANSMITTERS

For the serious professional who wants true step-up quality features. Lavaller (clip mic) systems each includes:

MR-1 Micro Receiver, TX-3 Body-Pack nsmitter, Lavalier Mic with Multi Pin Plug

Sony ECM-144 Sony ECM-55 Senheiser MKE-2.





MKE-300 Short Shotgun

- Lightweight electret condenser mic to support the excellent video capabilities of most camcorders with the superior audio
- Ideal for mounting on camcorders with an integrated shoe
- Idea not mounting on concorders with an integrated since assembly and mexternely lightweight compact design.
 Tajht, supercardioid polar pattern has the ability to pick up only those sounds that correspond to the scene being limited and rejects any disturbing ambient noise.
 Integrated wind screen eliminates handling and wind noise.
 Operating time of over 200 lirs. using its own built in battery so will not just added strain on your camcorders already liminded power supply.

 179.95

K6 MODULAR ELECTRET MULTIMIKE SYSTEM

This rough, system has separate capsules and a powering module that can be combined to produce a wide variety of microphones. It converts quickly from one type of microphone module to produce a wide variety of microphone to another by simply threading roughter various system components. All capsules use back-electre (technology for uncompromised quality, Output of the powering modules is balanced, low impedance (200W) and terminates in a standard 3-pin XLR connector. The K6 series was designed to bring studie quality sound to the broadcist and field recording market. The K6 power supply can accept microphone capsules ranging in polar pattern from ommidirectional to highly directional storagun, as well as special application lavier microphones.

K6 Micrephone handgrip and power supply capable of battery/phan-tom powering all microphone capables in this series. One "An't hattery supplies power for approximately 150 hours or phantom power (12-48 volts). The K6 power supply has an integrated base of old switch and ontolf switch with LEB indicator for battery

Short shotgun capsule. All sound corring from the rear and sides of the MEBB is greatly attenuated, thus allowing this microphone to pick out special counds in noisy environments. Great for interviews in crowded shabitors, as a camera microphone for electronic news gathering (ERGs), for unothristoe theater sound resinforcement and as a podium mix. Frequency response; 50-70kHz+ 9:75-48. ME66 with K6 Powering Module

ME64

WAYE () =

MICRO SERIES 1202-VLZ

12-Channel Ultra-Compact Mic/Line Mixer

Usually the performance and durability of smaller mixers drops in direct proportion to their price. Fortunately, Mackie's fanatical approach to pro sound engineering has resulted in the Micro Series 1202-VLZ, an affordable small mixer with studio specifications and rugged construction. It delivers no-compromise, non-stop, 24-hour-a-day professional duty in permanent PA applications, TV and radio stations, broadcast studios and editing suites—where nothing must ever go wrong.

*Working S/N ratio of 90dB, distortion below 0.025% across the entire audio spectrum and +28 dB balanced tind erivers.

*A mono chamnels with discrete, balanced balanced micriline inputs and 4 stereo channels (12 inputs total).

*Line inputs and outputs work with any line level, from instrument level, to semi-pro -10dB, to professional +4dB.

NEW! MS1402-VLZ

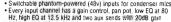
14 x 2 Compact Mic/Line Mixer

Mackie's fanatical engineers have done it again. Balanced inputs and outputs, 3-band

EQ, AFL/PR. and delives tape monitor/Control Room feature. Wice long 60mm faders,
six studio-quality mic preamps and extra All 3-4 stereo bus—in less than 1.3 square. eet of space. Studio grade mic preamps (chs. 1-6) with high headroom

- Studio grade finic preampts (cris. 1-g) with high neardoon, low noise and phantom power. Also incorporate low cut fil-ters to cut mic handling thumps, pops and wind noise. Lets you safely use low shelving EC on vocals. "Trim controls (ch. 1-6) with ultra wide range (+10 to -40uB) handle everything from hot digital multitrack feeds to whisper-ion hand signers and older he untry likewise.
- ing lead singers and older, low output keyboards.
 Pan control with constant loudness and high L/R attenuation
- so you can pan hard left or right without bleed-through.

 Two aux sends per channel with 15dB extra gain above Unity.





60mm log-taper faders are 60mm log-taper faddrs are accurate along their whole length of travel and employ a new long-wearing contact material for longer fadder file & uper resistance to dust, smoke etc. Control room/phone matrix adds incredible tape monitoring, mixdown and live sound versatility.

Use if for feeding multitrack recorder channels, creating a sub-

group via control room/phones matrix, monitoring a signal before bringing it into the main mix or creating a " mix minus".

Solid steel chassis instead of aluminum or plastic.

The new MS-1202, 1402 and 1604 all include VLZ (Very Low Impedance) circuitry at critical signal path points. Developed for Mackie's acclaimed 8°Bus console series, VLZ effectively reduces thermal noise and minimizes crosstalk by raising current and decreasing resistance.



NEW! CR-1604 VLZ **16-Channel Mic-Line Mixer**

The hands-down choice for major touring groups, studio session players, as well as broadcast and sound contracting. The new CR-1604 VLZ features everything you would expect from a larger console, and then some! 24 usable line inputs with special headroom' ultra-low noise Unityplus Circuitry, seven AUX sends, 3-band EQ, constant power pan controls, 10-segment LED output metering & discrete front end phantom-powered mic inputs.

- Lowest noise and highest headroom (90 dB working S/N and 108 dB dynamic range). Many drummers consider it the only mixer capable of handling the attack and transients of acoustic and electronic drums.
- and electroric drums.

 Genurine studio-grade phantom powered, balanced input mic preamps on channels 1-6. All CR-1604 VEZ (and optional XLR10 for fen more) discrete linput mic preamp stages into protate four conjugate-pair, large-emitter geometry transistors. So, whether recording nature sound effects or heavy metall, miking flutes or kick drums, you get the quietest, cleanest results possible. True 4-bus design with channel assigns to 1-2, 3-4 or main L-R.
- PROPERTY OF THE PARTY OF THE PA . 3-band EQ with mid-frequency sweep and
- AFL/PFL solo and mute switches with overload and signal
- AFL/PFL solo and mute switches with overload and signal present indicators.
 Rear panel features include insert points and 1/4-inch /XLR connectors on every channel, as well as RCA tape inputs/outputs.
 New, standard size channel trim pots are found at the top of each channel.
 Rotary input/output "pod" allowing three different positions for Sef-iip.

AZDEN PRO SERIES VHF WIRELESS MICROPHONES

The AZDEN PRO SERIES brings you high performance VHF wireless at an affordable price. Built around a two-channel design they allow selection of a frequency for the cleanest signal - delivering clean, reliable RF performance for up to 250 feet. The Pro Series includes handheld and lavalier mic systems as well as the WMS-PRO which includes a lavalier and handhard mic. **PRO SERIES COMPONENTS**

COMPLETE SYSTEMS WMS-PRO

- Professional VHF wireless system with 250 ft. range Two switchable frequencies (166,445 and 170,245 MHz) Includes handheld and lavalier mic for extra flexibility Compact transmitter attaches to belt or fils in a pocket
- Includes earphone monitor

WLX-PRO

- Sensitive lavalier mic avith attached tie clip
 Lightweight belt-pack transmitter with two frequencies
 Includes wind screen, earphone monitor, shoe mount
 159.95
- Handheld microphone with Bull-in transmitter
 No wires, no beltpack, no tangle-hassle free
 Operates on one AA battery for up to 8 hours
 Has a combination en/off-mute switch for quiet switching
 Includes shoe mount, velcro, earphone monitor189.95

WM/T-PRO

111 PRODUCER SERIES

Designed for professional vite/signapliers who need excellent audio reproduction, the 111 Producer Series is a professional VHF wireless microphone system that delivers excellent RF performance and wide frequency responser - even under adverse conditions. Avrallatie in 10 frequentiers, the Producer series has a range of 30% and is often in handheld lavaller or plagrin systems. Each Producer series system comes packaged in a black leatherette carrying case.

111R RECEIVER

The heart of the system, the 111R Recover features output volume adjustment, balanced or unbalanced output capability and adjustable mute/squelch. It also has headphone output with volume adjustment, removable rubber ducky antenna and Svoit bat-tery or DC 12voit power input. It includes a mini-mini output cable; with mini to XLR 8 mini to phone plug, available as options.

31 HT HANDHELD TRANSMITTER

- High quality uni-directional dynamic element Unique rubber-coated durable ABS housing for comfortable feel
- online robust contact and and low handling noise

 Has 3-position power switch with standby for muting the audio

 Supplied with additional range-extender antenna

31 LT LAVALIER BODYPACK

- · Choice of high quality plug-in omni or uni-directional elec-
- tret condenser microphore
 Input level control for maximum flexibility
 Constructed of durable ASS housing
 3-position power switch with standby for muting sudio
 - 31 XT PLUG-IN
- Unique plug-in transmitter turns any dynamic "wired" microphone with XLR dutput into a wireless
 Full range of on-board controls, including power or/off, audio mute and status LED
- · Input level control for maximum flexibility

ALL ITEMS ARE COMPLETE WITH ALL ACCESSORIES AS SUPPLIED BY MANUFACTURER

NRG power belts are the ultimate power solution. They provide the power to run lights, camoorders and decks without the lear of shurdown. Advanced high-density nicad power cells provide the lightest veight and longest service lite of any power products made. Innovative teatures such as dual power outputs, power indicator, removable packs, plus accessories like high-speed chargers, solar panels and high-current cables combine to form the complete power solutions for any kind of users.



880 Power-Pro +

- High däpacity quiek-charge (movable).

 High däpacity quiek-charge (movable).
 Power chassis with dual 3-pin XLR inputs allows for pack interchange without shutdows.
 2500-cycle cell provides lcives; cost per cycle
 Microprocessis-controlled 5-step multi-color power indicator display.
 Bell milli cellipack weighs only 4.9 lbs for all day comfort.
 Dual dutputs dispers simultaneous powering of two devices (eg. camera and light) Dutput configurations include eigarette lighter and 4-pin
 XLR in any combination.
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 Charge in drifter shous thin the optional 650-III charger.
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970 Power-MAX

- Same leatures as 880 Power-Pro + Beit Plus-+ Highest capacity quick-charge capable 12 Volt 14-AMP sintered ricad power pack (removable). Rugged high-grade, black leather belt case; chassis assembly with dual 3-pin XLR inputs for pack interchange

- dsseling with out a 5 pin extended to the with cell shutdown.

 Belt with cellipack weighs a comfortable 7.5 lbs.

 Includes Power-MAX belt and power chassis, 14-amp cell pack in 12V or 13.2 volt configuration, model 600 overright charger, comprehensive owner's manual. Pits viatis size 29-44.

 Also available in 13.2-Volt 14-amp version. The 13.2-Volt version offers 15-20% longer runtimes because industrial VCRs shut of at Impler voltage levels By not situiting off the Power-MAX is allowed to fully discharge, thus the londer running time.

VARA-LITE PRO Professional DC On-Camera Light

revolutionary new NRG Vara-Lite combines the ruggedness, light The revolutionary new NRG Vara-Lite Pro combines he ruggidenses, light efficiency and versightly of NRG's best selling Versight Pro (DC only) with a sophisticared electronic light management system. Transks to on-board control IC's using NRG's Light-Cate technology, light intensity can be infilinitely adjusted by file user within a range of 10% to 100% of the lamps's rated power. Now instantly adjust light output to exactly meet changing light requirements. Best of all, the Vara-Light Pro virtually eliminates cotor shift and dramatically conserves precious battery gower by using only the power required for the selected light level.

vides years of service under adverse conditions

selected light level.

Accomodates bulbs from 20W to 100W DC.

Prismatic dispersion grid provides smooth even light output and reduced glare without chairging light intensity.

Sturdy alt-metal cliek filt mounting bracket with ratchet action. Eliminates shake under action for conditions.

Optional darn doors enhance light control capabilities.

Front retainer assembly goop off for instant bulb access without the bother of screws.

Brond milling aluminum light head disperses heat and or Rugged milled aluminum light head disperses heat and pro-

POWER STATION-2 SERIES

Just plug the PowerStation-2 into any AC outlet in the world and out comes perfectly regulated 12-voil 9C go ver through four 4-pin XR connectors and/one clagarette injoint connectors. It uses an advanced puise-width-modified gover supply which allows for utra-light veryith and small size. It operates with inthe heat even at full output. The PowerStation-2 is the utificant enhalipse-output professional power source for carnetes, decks, lights, monitors, and a host of other outless accessors.



- 85-264 volts worldwide auto-adjusting input (just plug in).

- Society vondivine and causing imput guar plug in)
 Supply is fully protected from overcurrent.
 Ultra-light weight under 3 lb.
 Outstanding 300,000 hour mean time between failure is far in excess of any other manufacturer.
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- linean type supplies:

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Toaster CG Live continued From page 49

effects in the digital drawer, because they have a dark gray background on their icon. When you run these effects



Figure 3:

without the keyer on, they flip the picture around, showing the Matte background generator color. When you use them with the keyer turned on, they do some pretty amazing things.

Start out by keying the first graphic over the live source. Once the clip level is set well for the first graphic, you probably won't have to set it again. Now select an "in" type of effect. Single click the effect, and then pull the T bar down, just a tiny bit. When you do this, you'll see that the overlaid image disappears. As you pull the T-bar down, you'll see the image fly in, using the trajectory of the effect.

This is where you'll start the effect. Push the T-bar almost all the way back up, just far enough down so that the T-Bar is in the active position. You won't see the graphic but when you hit the space bar, the text will fly in from off screen. Single click the next text screen, and then single click one of the Matte effects. Now when you hit the space bar, the text will flip over, revealing the next text screen.

Click the next text screen and reselect the effect. Hit the space bar and the next screen comes up. You can continue this again and again, bringing up more pages. It is important that you reselect the Matte effect each time, before you hit the space bar. The default effect on the Switcher is the Smooth Facle. If you hit the space bar before reselecting the effect, the Toaster will smooth fade from the program bus to the preview bus, throwing out the keying information. This results in a fade from the background image to a black screen with text on it.

Once you have done the effects and are on the last graphic find an out type of digital effect, single click it and hit the space bar. This flies the last graphic off the screen, completing the effect. This looks spectacular and can be used in a number of situations. I've used the effect

instead of a scroll of credits at the end of a show and for several commercials. When you need to get more than one page worth of information across, this works great.

The key to successfully using the Switcher and CG in a live situation is to practice using it as if you were live. The Switcher always defaults to the smooth fade effect. If you want to do the same effect over and over, it will work. But if you do an effect and then load a graphic, the Switcher reverts back to the

smooth fade effect, so even if you want to do the same effect, it must be reelected each time.

Bob Anderson works for NewTek in technical support. He is also an accomplished author and educator. Reach him at: bob@newtek.com.

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Wednesday, Hovember 6

9:30am - 11:30am

- Envelopes, Motion Graphs, Keyframing Brad Peebler
- Toaster Essentials, a Beginner's Guide Bob Anderson

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- ••• Character Animation Part 1: Bones Jason Linhart
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- ••• 3D Compositing TBD
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Thursday, Hovember 7

9:30am - 11:30am

- ••• Real World Special FX TBD
- Editing with the Flyer —
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1:00pm - 3:00pm

- Displacement Mapping & Surfaces Don Pence
- Lighting & Camera Angles John Parenteau

3:30pm - 5:30pm

- Character Animation Part 2: IK and Animation Jason Linhart
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Friday, November 8

9:30am - 11:30am

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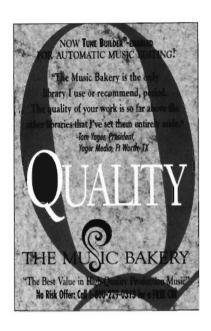
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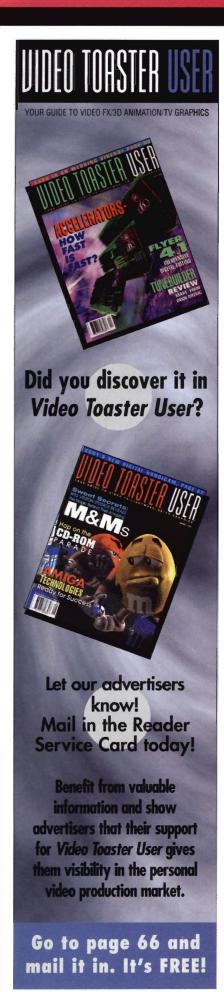
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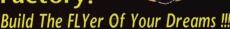
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 Batch Process Frames To Clips Or Stills
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 Build Clips From Individual Frames (Even From Different Directories)
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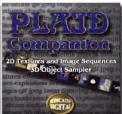
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LAST WORD

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Where Do Ideas Come From?



by Mojo



or the last 24 hours, I've been going nuts.

Video Toaster User needs my "Last Word" column a little earlier than usual (and on shorter notice) and I haven't been able to come up with a single good idea. True, this happens just about every month, but this time it was really bad. I even offered to buy lunch for anyone at work who could come up with one for me!

Then, just as I started looking for my passport,

Why is it so tough to come up with an idea? There's an infinite number of concepts out there-why can't I just pluck one out on demand? I mean, come on—one out of

"...I start to model a space-

with...but , between my

extreme inability as an

artist and my ineptitude in

Modeler, halfway through i

wind up with something

infinity isn't asking for a lot! And it's not just me, either no one at work could do it. In fact, very few (if any) creative people I know can **ship that I'm familiar** simply just pull a great idea out of thin air.

> One of the most (sadly) memorable experiences from my college days took place one afternoon in screenwriting class. We had a member of the W.G.A. (Writer's Guild of America) as a guest and, to illustrate a point, he asked someone to come up with a simple idea for a movie.

Fifteen students sat there, staring blankly at each other.

A few minutes passed.

"What's the matter with all of you?!" he asked, dumfounded. "You all want to be screenwriters and no one can come up with an idea for a movie?!" Finally, I mentotally unique!" tioned something silly about Venusians wanting to take over the earth, but that

moment will forever stay locked in my mind-no one could think of anything-and we wanted to be writers!

So where do the ideas come from?

This could be the number one question I hear asked of famous writers. They usually try to come up with a soul-searching, profoundly satisfying answer but are rarely successful. The best response I ever heard came from Douglas Adams, author of The Hitch-Hiker's Guide to the Galaxy. When asked how he came up with ideas, he said, "I don't know—it's just my job!"

Very glib, but he made his point. There is no one way to come up with a creative idea. You can sit there until you're blue in the face trying to think of one and it just won't come. They're bastards like that! Ideas are mystical little critters that can just about never be found by looking for them. You have to concentrate on something else and keep your search at the back of your mind. Thenmaybe—out of the corner of your eye, you might catch a little movement and then SNAG—you've caught one.

One key to success is to stimulate that part of you which recognizes ideas. Many writers make sure they read every newspaper and current events magazine they can get their hands on. Sometimes you can find a true story worth telling but, more often, all the little dramas that unfold from the pages can spark a unique story. Take a recent Los Angeles item about (another) person being killed by a train. How does a person get hit by a train? Who were they? What events in their life led them to those tracks and being struck (accidentally or on purpose?) by a fast-moving train? Perhaps a bit from another story can fill in the blanks. I'd wager that one copy of The New York Times has enough material to write an entire script from. Too stuffy? You could always try The National Enauirer!

Sometimes it's just a matter of getting the ball rolling. I often sit down to write this column with hardly the speck of an idea in my head. However, as soon as I actually start to write, more and more thoughts begin to creep up and, before you know it, I've got a column (usually about something completely different than what I started with).

There have been occasions on Babylon 5 where I've had to come up with a spaceship design. I'll sit there with pen and paper, doodling for an hour, drawing nothing but complete blanks. Eventually, I start to model a spaceship that I'm familiar with (something from Star Wars or Star Trek usually). I always set out to copy it exactly but, between my extreme inability as an artist and my ineptitude in Modeler, halfway through I wind up with something totally unique! A strange way to get there, no cloubt, but at least I finish! Sometimes just getting started is all it takes.

Everyone knows that there really aren't any original ideas left in the world. It's all been done over and over again. I think what separates the creative folks from the rest is the ability to look at the world from a slightly skewed angle and see things a little differently. A fresh idea is nothing more than a new twist on an old one, so get out there and start twisting some old ideas! It's easy.

Well, at least until next month!



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